## **SERVICE MANUAL**



**US Model** Canadian Model AEP Model E Model UK Model

# **Discman**

#### **SPECIFICATIONS**

CD section

System Laser diode properties Compact disc digital audio system Material: GaAIAs

Material: GaAIAs Wavelength: 780 nm Emission duration: Continuous Laser output: Max. 44.6 μW\*

\* This output is the value measured at a distance of 200 mm from the objective lens surface on the Optical Pick-up Block. 500 r.p.m. to 200 r.p.m. (CLV)

Spindle speed Scan velocity Error correction D-A conversion 1.2-1.4 m/sec.
Sony Super Strategy Cross Interleave Reed Solomon Code
16-bit linear 8 fs digital filter
20-20,000 Hz 1 d8

Frequency response Wow and flutter

Outputs (at 6 V input level)

20-20,000 Hz ½ 3B
Below measurable limit\*\*

\*\* Measurable limit\*\*

\*\* Measurable limit\*\*

Cutput (stereo minijack)
Cutput level 0.6 V rms at 50 kilohms
Load impedance over 10 kilohms
Headphones (stereo minijack)
9 mW+9 mW at 16 ohms

Radio section Frequency range

AEP (except italian) and Canadian

FM: 87.5 - 108 MHz in 50 kHz (100 kHz) intervals AM: 531 - 1602 kHz in 9 kHz intervals 530 - 1710 kHz in 10 kHz intervals

Italian model FM: 87.5 - 108 MHz in 50 kHz intervals AM: 531 - 1602 kHz in 9 kHz intervals

FM: 87.5 - 108 MHz in 50 kHz (100 kHz) intervals

AM: 530 - 1710 kHz in 10 kHz intervals 531 - 1602 kHz in 9 kHz intervals

FM: 76-108 MHz in 50 kHz intervals 87.5-108 MHz in 100 kHz (50 kHz) intervals AM: 531-1602 kHz in 9 kHz intervals

530-1710 kHz in 10 kHz intervals

FM: 10,7 MHz AM: 450 kHz Intermediate frequency

FM: Headphone cord or connecting cord antenna AM: Built-in ferrite bar antenna Antenna

CAUTION

UK model

The use of optical instruments with this product will increase eye hazard.

#### For the Custmers kin the UK model and AEP model



This Compact Disc player is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT label is located on the bottom exterior.

# MICROFILM

#### General

Power requirements

Rechargeable battery pack BP-2EX (supplied)
Battery case EBP-2 (supplied) and two size AA (LR6) alkaline
batteries (not supplied)
DC IN 6 V jack accepts:
Sony AC power adaptor (supplied)

| Where purchased | Operating voltage      |
|-----------------|------------------------|
| Canadian model  | 120 V AC, 60 Hz        |
| UK model        | 240 V AC, 50 Hz        |
| AEP model       | 220 V AC, 50 Hz        |
| E model         | 100-240 V AC, 50/60 Hz |

Sony CPM-200P mount plate for use on 12 V car battery

Power consumption

Got supplied)
Lithium battery (Sony CR2025) 1.4 W DCApprox. 128 × 35.4 × 145 mm (5  $\frac{1}{2}$  × 1 $\frac{7}{16}$  × 5 $\frac{3}{4}$  in.) (w/h/d) Dimensions

not incl. inclined part (depth), projecting parts and controls Approx. 130 × 36.6 × 146 mm ( $5\frac{1}{6} \times 1\frac{1}{2} \times 5\frac{3}{4}$  in.) (w/h/d)

(37)s 1792 374 iii.) (W/I/U) iii.cl. projecting parts and controls Approx. 390 g. (13 oz) not incl. rechargeable battery Approx. 475 g (1 lb 1 oz) incl. rechargeable battery AC power adaptor (1) Rechargeable battery pack (1) Weight

Supplied accessories

Hand strap (1)
Connecting cord (1) (stereo miniplug ↔ two phono plugs)

Battery case (1) Headphones (1) Lithium battery (1)

Design and specifications subject to change without notice.

This appliance conforms with EEC Directive 87/308/EEC regarding interference suppression.



Polarity of the plug

FM/AM COMPACT DISC **COMPACT PLAYER** SONY®

#### **CAUTION**

Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the equipment manufacturer. Discard used batteries according to manufacturer's instructions.

#### ADVARSEL!

Lithiumbatteri – Eksplosionsfare ved fejlagtig håndtering.
Udskiftning må kun ske med batteri
af samme fabrikat og type.
Lever det brugte batteri tilbage til leverand¢ren.

#### ADVARSEL

Lithiumbatteri – Eksplosjonsfare.

Ved utskifting benyttes kun batteri som anbefalt av apparatfabrikanten.

Brukt batteri returneres apparatleverand¢ren.

#### **VARNING**

Explosionsfara vid felaktigt batteribyte. Använd samma batterityp eller en ekvivalent typ som rekommenderas av apparattillverkaren. Kassera använt batteri enligt fabrikantens instruktion.

#### **VAROITUS**

Paristo voi räjähtää, jos se on virheellisesti asennettu. Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyyppiin. Hävitä käytetty paristo valmistajan ohjeiden mukaisesti.

#### SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK A OR DOTTED LINE WITH MARK A ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

#### ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE A SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

#### TABLE OF CONTENTS

| Section .            | <u>Title</u>                 | Page            | Section       | <u>Title</u>                                | <u>Page</u>        |
|----------------------|------------------------------|-----------------|---------------|---|--------------------|
| Specifications · · · |                              | 1               | 4. DIAGRAMS   |   |                    |
| -                    |                              |                 | 4-1. LCD M    | odule · · · · · · · · · · · · · · · · · · · | 12                 |
| 1. GENERAL           |                              |                 | 4-2. Block I  | Diagram·····                                | 13                 |
| Location and         | Function of Controls · · · · | 4               | 4-3. Circuit  | Board Location                              | 16                 |
|                      |                              |                 | 4-4. Semicor  | nductor Lead Layout ·····                   | 17                 |
| 2. SERVICING N       | OTES                         |                 |               | Wiring Boards - Main Sec                    |                    |
|                      | ndling the Optical Pick-up   | Block · · · · 5 | 4-6. Schema   | tic Diagram - Main Section                  | 1 – · · · · 23     |
|                      | it Board Reparing ······     |                 | 4-7. Schema   | tic Diagram – Radio Sectio                  | n – · · · · · 26   |
|                      | p Component Replacement      |                 | 4-8. Printed  | Wiring Boards - Radio Se                    | ction — · · · · 29 |
|                      | cing the Optical Block·····  |                 | 4-9. IC Bloc  | k Diagram ·····                             | 32                 |
|                      | ser Diode Emission Check ·   |                 |               |   |                    |
|                      | Check Procedure              |                 | 5. EXPLODED   | VIEWS                                       | 36                 |
|                      | (service program) ······     |                 |               |   | •                  |
|                      |                              |                 | 6. ELECTRICAL | PARTS LIST                                  | 39                 |
| 3 FLECTRICAL         | ADJUSTMENTS                  | 7               |               |   |                    |

## SECTION 1 GENERAL

#### · Features

- Compact disc player with digital synthesizer tuner.
- Numeric buttons allow direct choice of selections (CD) or preset stations (TUNER).
- PHONES/REMOTE jack allows use of the stereo headphones with remote controller (not supplied).

#### Before Using the Radio

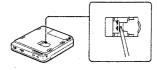
Stations preset at the factory for this unit are the ones listed under 1 in the table.

| The position of the switch Preset Number | 1 (For US and Canadian model) | 2 (AEP and E model) |
|--|-------------------------------|---------------------|
| 1  | AM 530 kHz                    | AM 531 kHz          |
| 2  | AM 620 kHz                    | AM 621 kHz          |
| 3  | AM 1,000 kHz                  | AM 999 kHz          |
| 4  | AM 1,400 kHz                  | AM 1,404 kHz        |
| 5  | AM 1,710 kHz                  | AM 1,602 kHz        |
| 6  | FM 87.5 MHz                   | FM 87.5 MHz         |
| 7  | FM 98.0 MHz                   | FM 98.0 MHz         |
| 8  | FM 108.0 MHz                  | FM 108.0 MHz        |
| 9  | AM 530 kHz                    | AM 531 kHz          |
| 10                                       | AM 620 kHz                    | AM 621 kHz          |
| 11                                       | AM 1,000 kHz                  | AM 999 kHz          |
| 12                                       | AM 1,400 kHz                  | AM 1,404 kHz        |
| 13                                       | AM 1,710 kHz                  | AM 1,602 kHz        |
| 14                                       | FM 87.5 MHz                   | FM 87.5 MHz         |
| 15                                       | FM 98.0 MHz                   | FM 98.0 MHz         |
| 16                                       | FM 108.0 MHz                  | FM 108.0 MHz        |
| 17                                       | AM 530 kHz                    | AM 531 kHz          |
| 18                                       | AM 620 kHz                    | AM 621 kHz          |
| 19                                       | AM 1,000 kHz                  | AM 999 kHz          |
| 20                                       | AM 1,400 kHz                  | AM 1,404 kHz        |

(Position 3 is the same as the position 2.)

#### How to select the factory preset stations

- 1 Remove the power sources and the lithium battery from the unit.
- 2 Set the switch to the appropriate position according to the area where you use the unit, with a ball-point pen or other pointed object.

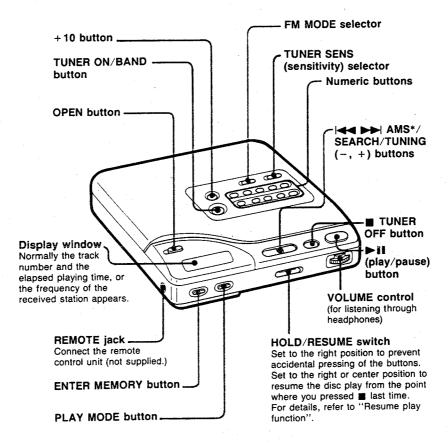


#### To use the unit in European countries

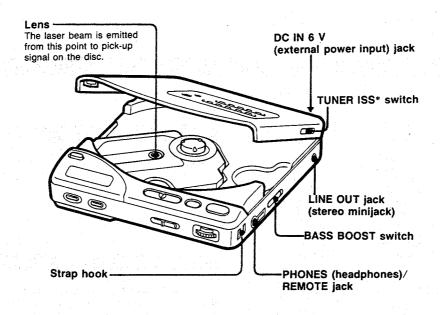
Set the switch to position 2.

Naver use the supplied AC power adaptor. Be sure to use the AC power adaptor whose operating voltage and frequency are the same as the local power line voltage and frequency.

#### · Location and Function of controls



\* AMS is the abbreviation of Automatic Music Sensor.



<sup>\*</sup> ISS is the abbreviation of Interference Suppress Switch.

# SECTION 2 SERVICING NOTES

## NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.

During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.

#### Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron at 270° ± 10°C during repairing.
- Do not touch the soldering iron more than 4 seconds or 3 times on the same conductor of the circuit board.
- 3. Do not apply force on the conductor when soldering or unsoldering.

#### Notes on chip component replacement

- · Never reuse a disconnected chip component.
- Notice that the minus side of a tantalume capacitor may be damaged by heat.

#### Before Replacing the Optical Block

Please be sure to check thoroughly the parameters as par the "Optical Block Checking Procedures" (Part No.: 9-960 -027-11) issued separately before replacing the optical block.

Note and specifications required to check are given below.

- FOK output: IC501 (9) pin
   When checking FOK, remove the lead wire to disc motor and unsolder and open IC801 (10) pin.
- S carve P-to-P value: 2.5 Vp-p
- · Adjusted part for focus gain adjustment: RV505
- RF signal P-to-P value: 0.8-1.35 Vp-p
- Traverse signal P-to-P value: 1.8 Vp-p
- · The grating holer can not repair.
- · Adjusted part for tracking gain adjustment: RV501

#### NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe, from more than 30cm away from the objective lens.

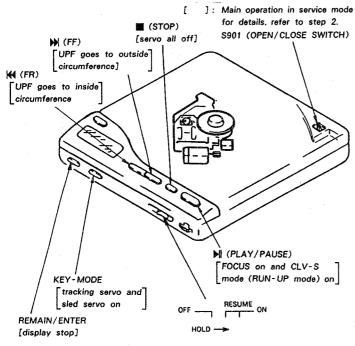
#### Laser Diode Check Procedure

The laser diode on this set will not emit unless the top panel is closed and S901 (leaf SW type) is turned on. The laser diode will always emit even if focus search is not performed in service mode.

The laser diode is checked using the current value which flows to the laser diode inside the UPF.

**Procedure 1** (service mode or normal operation) Check the laser diode emission with the eye.

- 1. Open the top panel.
- S901 on as Fig. 1.
   (In service mode, this operation is not necessary.)
- Press the ►II key.
   (In service mode, this operation is not necessary.)
- 4. Observe the objective lens and confirm that the laser diode is emitting light. At this time, the laser diode goes on about 10 seconds due to focus search. If it does not, APC circuit or UPF is defective.



Be sure to set HOLD switch OFF.

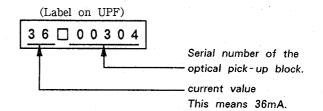
If not key inputs can not be operated.

Fig. 1 Turning S901 on/Key positon.

**Procedure 2** (service mode or normal operation)

Check by the current with flows in the laser diode.

- 1. Close the top panel.
- 2. Remove the main board and read the current value on the label affixed to the UPF.



The current value varies with the set.

- 3. Connect a VOM as shown in Fig. 2.
- 4. Press the ▶ ii key.
- 5. Calculate the current by the VOM reading.
   VOM reading (V) ÷ 10 = current (A)
   ex. VOM reading = 0.36V
   0.36 ÷ 10 = 0.036 (A) = 36 (mA)
- 6. Confirm that the ammeter reading is within the range given below.

value on label<sup>±</sup><sub>11</sub> mA (25°C) variation relative to temperature: 0.4mA/°C (Current increases when temperature rises and decreases when temparature goes down)

If the value is more than the range given, APC circuit has been defective or the laser diode has deteriorated. If it is less, APC circuit or UPF is defective.

#### SERVICE MODE (service program)

This set has built-in service program in the microcomputer as usual sets.

The operation method of service program is explained below

#### Step 1 (Service Mode setting method)

- Turn the HOLD switch OFF with the external power supply not plugged in (no power applied to set) and press the >11 key.
- Solder jumper TEST point.
   Short Z5 (TEST) jumper terminal. (Z5 (TEST) jumper terminal is connected to pin 13 of IC802.)
   (IC801 pin 6 (BAT-E) is grounded.)
- 3. Plug in external power supply.

  This puts the set into service mode.

#### Step 2 (Service Mode operation)

- 1. When service mode is set, the display will change 6 times, and those 6 changes will be repeated over and over.
  - With this the LCD display should be present in service mode. Even if LCD does not display, other operations will be performed.
- When → or ← key is pressed, the UPF moves to the inside or outside circumference. Tracking servo and sled servo go off when this is done, so press KEY-MODE to turn on the tracking servo if necessary.
- 3. When REMAIN is pressed, the display stops. When REMAIN is released, the display continues to change. This allows check of each segment.
- 4. When ►II key is pressed, CLV-S (pull-in mode) starts while preforming focus search. When there is no disc installed, focus search is repeated several times while disc motor is rotating.
- When KEY-MODE is pressed, focus servo, tracking servo, sled servo and CLV-A (servo during PLAY) go ON.
- 6. When 4 and 5 are performed, the disc begins to play. At this time, the top panel should be closed and S901 are to be ON.
- 7. All servo (focus, tracking, sled and spindle) go off when key is pressed. But disc motor continues rotating for a while by inertia.

#### Step 3 (Service Mode release)

- First be sure to unplug the external power supply, then remove the TEST point solder jumper.
- 2. The set will now operated normally.

## SECTION 3 ELECTRICAL ADJUSTMENTS

#### 3-1. CD SECTION

#### Notes on Adjustment

- Perform adjustments except for RECHARGEABLE VOLTAGE ADJUSTMENT and BATTERY DISPLAY ADJUSTMENT in service mode. Be sure to release service mode after completing adjustment. (Refer to "Service Mode (service program)" on page 5.)
- 2. Perform adjustments in the order given.
- 3. Use YEDS-18 disc (part No.: 3-702-101-01) unless otherwise indicated.
- Power supply voltage: 6V DC HOLD switch: OFF VOLUME control: MIN

#### **PREPARATION**

Put the set into service mode (see page 5) and perform the following checks. Repair if there are any abnormalities.

#### · Sled Motor Check

- 1. Press the OPEN button and open the top panel.
- 2. Press the ►, K keys and make sure that the UPF moves smoothly, without catching, from the inmost → outmost → inmost circumference.

UPF moves outward
UPF moves inward

#### · Focus Search Check

- 1. Press the OPEN button and open the top panel.
- Press the ► II key (Focus search is performed continuously.)
- Observe the UPF objective lens and chek that it moves smoothly up and down with no catching or noises.
- 4. Press the key. Check that focus search operation stops. If it does not stop, press the key again longer than before. But disc motor continues rotating for a while by inertia.

# Rechargeable Voltage Adjustment Adjustment Procedure: wom (dc range) main board TP6 TP6

- 1. Connect the VOM to main board test point TP6.
- Apply DC 6V with regurated dc power supply from external power jack CN401.
- Adjust RV402 for 4.9-5V reading on the VOM.
   Note: Measure after the VOM reading becomes stable.

#### + 3.6V Adjustment

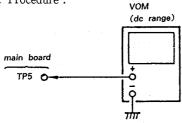
Adjustment Procedure:

VOM
(dc range)

- 1. Apply + 3.0Vdc between the terminals for batteries (BATT: AM3).
- 2. Put the set into service mode (see page 6).
- 3. Connect the VOM to main board test point TP7.
- 4. Adjust RV403 for 3.55-3.65V reading on the VOM.
- 5. After adjustment, release service mode (see page 6).

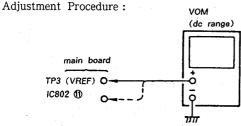
#### + 5V Adjustment

Adjustment Procedure:



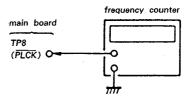
- 1. Put the set into service mode (see page 6).
- 2. Connect the VOM to main board test point TP5.
- 3. Adjust RV401 for  $+5\pm0.5V$  reading on the VOM.
- 4. Afer adjustment, release service mode (see page 6).

Battery Display Adjustment



- 1. Be sure that S401 is set to on.
- 2. Apply dc + 3.5V to terminals for bult in battery (BP-2).
- Insert the disc (YEDS-18) and put the set into play mode.
- 4. Adjust RV801 so that main board IC802 ① TP4 voltage and TP3 (VREF) voltage are equal.

PLL Free Run Frequency Check and Adjustment Check/Adjustment Procedure:



- 1. Disconnect the jumper point Z9 (EFM).
- Connect a frequecy counter to main board test point TP8 (PLCK).
- 3. Put the set into service mode (see page 6).
- 4. Check that the frequency counter reading is  $4.310 \pm 0.01$  MHz.

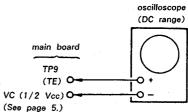
If not, adjust RV504 so that it is  $4.310 \pm 0.01$ MHz.

- 5. After adjustment, release service mode (see page 6).
- 6. Short the jumper point disconnected in step 1.

#### Tracking Balance Adjustment

Conditions:

The set should be placed disconnected horizontally. Adjustment Procedure:

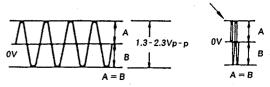


- 1. Connect the oscilloscope to main board TP9 (TE).
- 2. Put the set into service mode (see page 6).
- 3. Press the ▶ and ★ keys to move the UPF to the center.
- 4. Insert the disc (YEDS-18) and close the top panel.
- 5. Press the ►II key.

It will go from focus search to focus on, and CLV pull-in mode state. Tracking and sled are OFF.

6. Adjust RV502 so that the oscilloscope waveform is symmetrical about 0V axis.

Note: Take sweep time as long as possible to obtain best waveform.



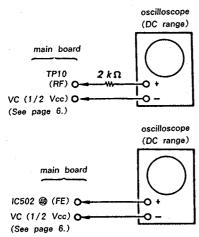
- 7. Unplug the external power supply to stop spindle motor from rotating.
- 8. After adjustment, release service mode (see page 6).

#### Focus Bias Adjustment

Conditions:

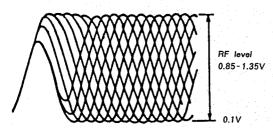
The set should be placed horizontally.

Adjustment Procedure:



- 1. Put the set into service mode (see page 6).
- 2. Connect the oscilloscope to main board IC501 (4) test point TP10 (RF).
- 3. Press the | and | keys to move the UPF to the center. (Move the UPF to the music area on the disc to enable easy visibility of the eye pattern).
- 4. Insert the disc (YEDS-18) and close the top panel.
- 5. Press the ►II key.
- Press the KEY-MODE button. (Tracking and sled go ON.)
- Adjust RV503 so that the oscilloscope waveform eye pattern is good. A good eye pattern means that the diamond shape (<>) in the center of the waveform can be clearly distinguished.
- RF Signal Reference Waveform (eye pattern)

VOLT/DIV: 200mV TIME/DIV: 500nS



When observing the eye pattern, set the oscilloscope for AC range and raise vertical sensitivity.

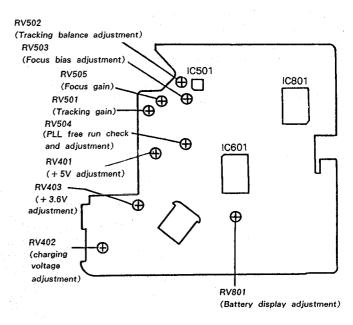
- 8. Connect the oscilloscope to test point TP11 (FE) (main board IC502 (38)).
- 9. Unplug the external power supply to stop spindle motor from rotating.

Adjust RV503 again refering to the table followed.

| oscilloscope reading | adjustment  |
|----------------------|---|
| more than + 10mV     | Adjust RV503 again for +10mV reading on oscilloscope. |
| less than -50mV      | Adjust RV503 again for -50mV reading on oscilloscope. |

10. After adjustment, release service mode (see page 6).

Adjuttment Location: main board



#### Focus/Tracking Gain Adjustment

A frequency response analyzer or CD jig is necessary in order to perform this adjustment exactly.

However, this gain has a margin, so even if it is slightly off, there is no problem. Therefore, do not perfrom this adjustment.

Focus/tracking gain determines the pick-up followup (vertical and horizontal) relative to mechanical noise and metchnical shock when the 2-axis device operate. However, as these reciprocate, the adjustment is at the point where both are satisfied.

- When gain is high, the noise when the 2-axis device operates increases.
- When gain is low, it is more susceptible to mechanical shock and skipping occurs more easily.

This adjustment is to be performed when replacing the following parts:

- optical pick-up block
- RV505 (focus gain VR)
- RV501 (tracking gain VR)

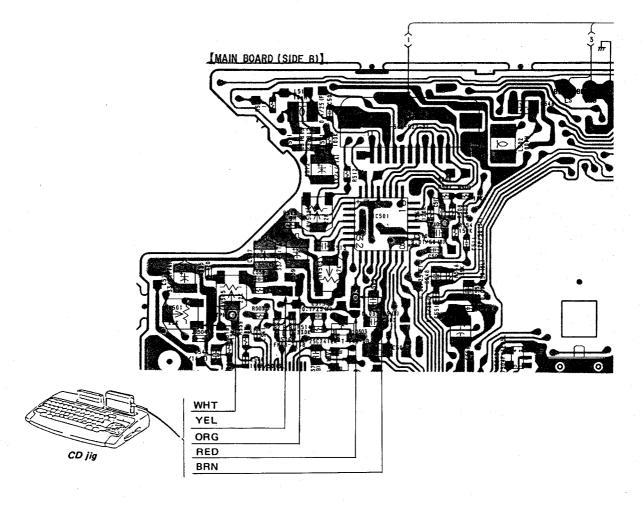
Be careful not to move RV505 (focus gain volume) and RV501 (tracking gain volume) ordinarily.

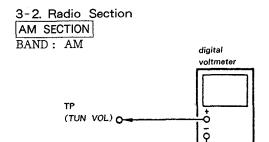
On this set, it is very difficult to simplify this adjustment. For those sets on which symptoms such as "occasional skipping" are hard to discover, or it is hard to tell if the set has been repaired, use the CD jig and perform this adjustment. Refer to the diagram below for connection of the CD jig. The adjustment procedure is described in the separate CD Jig Instruction Manual.

#### CD Jig Connecting Procedure:

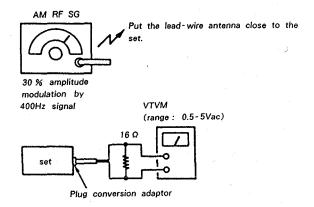
Remove the solder jumpers at the TE and FE locations and connect the DC jig.

(Connect the points on both TE and FE located on the side of IC501 to the output to the CD jig, and points located on the side of volumes to the input from the CD jig.)





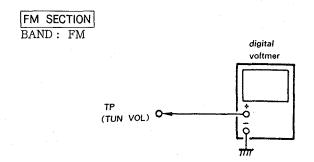
| AM TUNING VOLTAGE ADJUSTMENT                      |          |  |  |  |
|---|----------|--|--|--|
| Adjust for following values on digital voltmeter. |          |  |  |  |
| Display indication                                | AM531kHz |  |  |  |
| Digital voltmeter reading                         | 1.1V     |  |  |  |
| Adjustment part                                   | L005     |  |  |  |



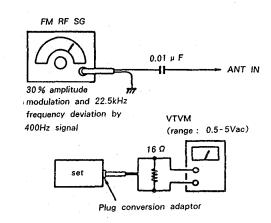
- Repeat the procedures in each adjustment several times, and the tracking adjustment should be finally done by the trimmer capacitors.
- Set the input level so that signals are obtained maximumly.

| AM TR                                 | ACKING ADJUSTMEN | VT .       |  |  |  |
|---------------------------------------|------------------|------------|--|--|--|
| Adjust for a maximum reading on VTVM. |                  |            |  |  |  |
| Display                               | AM621kHz         | AM1,404kHz |  |  |  |
| SG frequency                          | 621kHz           | 1,404kHz   |  |  |  |
| Adjustment part                       | L006 (BAR ANT)   | CT003      |  |  |  |

| AM IF ALIGNMENT      |                    |  |  |  |
|----------------------|--------------------|--|--|--|
| Adjust for a maximum | n reading on VTVM. |  |  |  |
| SG frequency         | 450kHz             |  |  |  |
| Adjustment part      | T001               |  |  |  |



| FM TUNING VOLTAGE ADJUSTMENT                      |         |  |  |  |
|---|---------|--|--|--|
| Adjust for following values on digital voltmeter. |         |  |  |  |
| Display indication                                | FM76MHz |  |  |  |
| Digital voltmeter reading                         | 1.2V    |  |  |  |
| Adjustment part                                   | L003    |  |  |  |



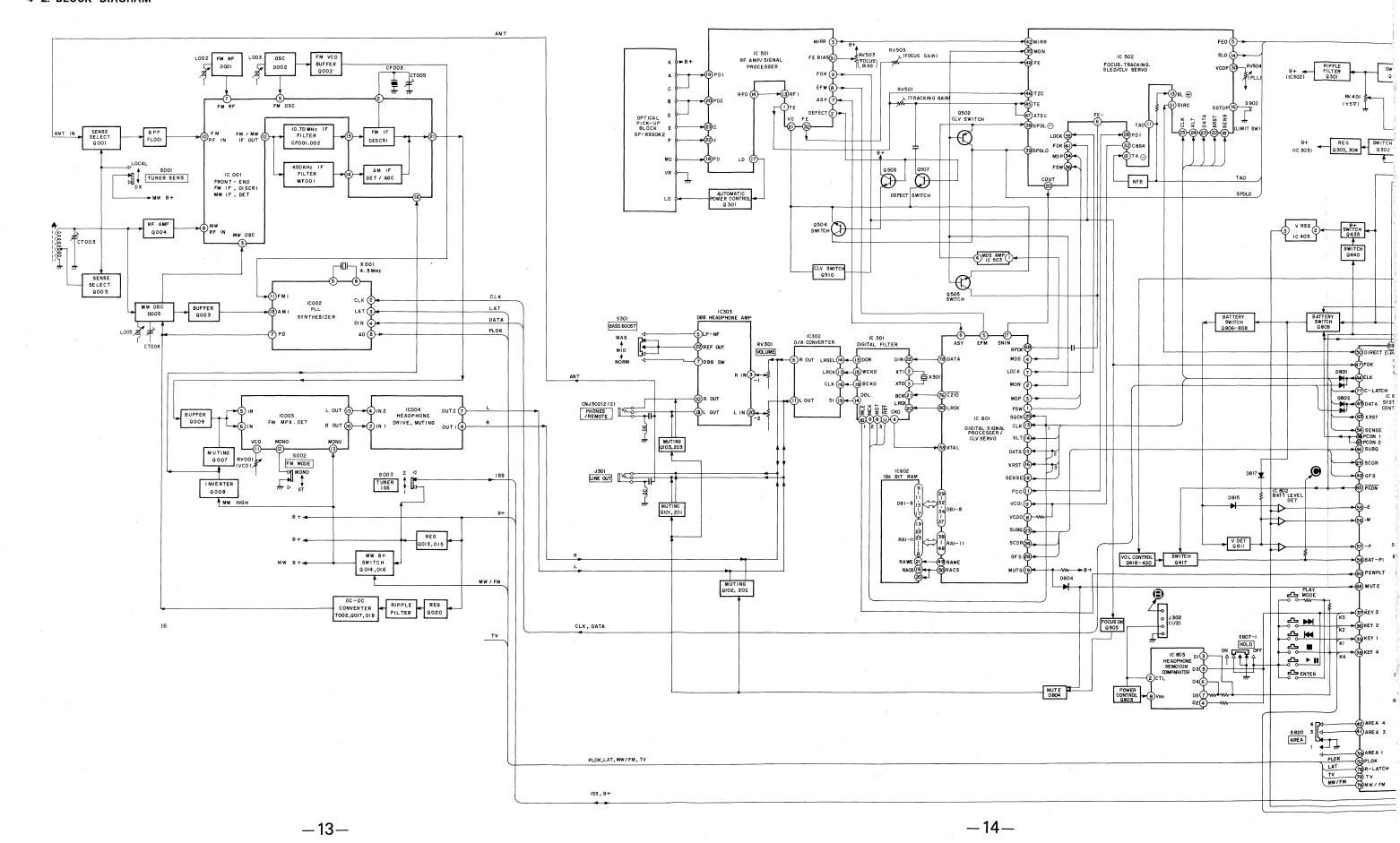
| FM TRACKING                           | ADJUSTMENT |  |  |
|---------------------------------------|------------|--|--|
| Adjust for a maximum reading on VTVM. |            |  |  |
| Display indication FM76MHz            |            |  |  |
| SG frequency                          | 76MHz      |  |  |
| Adjustment part                       | L002       |  |  |

#### 4-1. LCD MODULE

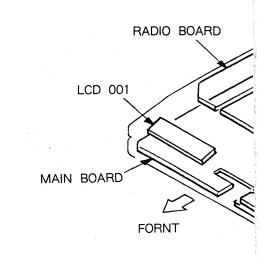


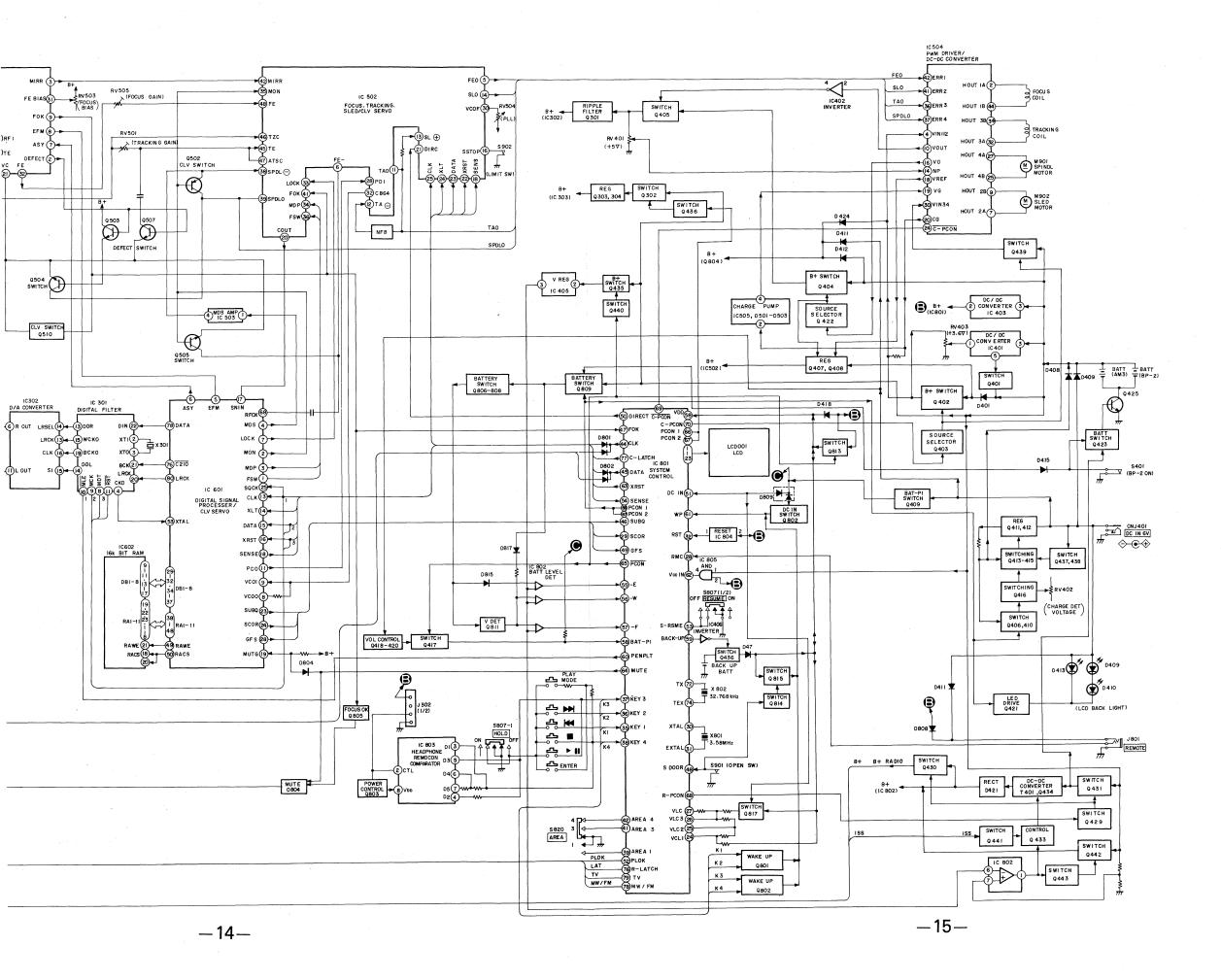
| NO. | COM. I | COM. 2 | сом. з | COM. 4  |
|-----|--------|--------|--------|---------|
| 1   |        |        |        | COM. 4  |
| 2   |        |        | COM. 3 | ·       |
| 3   |        | COM. 2 |        |         |
| 4   | COM. 1 |        |        |         |
| 5   | D      | C      | В      | A. E    |
| 6   | _      | REPEAT | CHARGE | PRESET  |
| 7   | 1f     | 1g     | 1e     |         |
| 8   | la     | lb     | lc     | 1d .    |
| 9   | 2f     | 2g     | 2e     |         |
| 10  | 2a     | 2b     | 2c     | 2d      |
| 11  | AM     | FM     | TV     | 1       |
| 12  | 3b     | 3g     | 3c     | ALL     |
| 13  | 4f     | 4g     | 4e     |         |
| 14  | 4a     | 4b     | 4c     | 4d      |
| 15  | 5f     | 5g     | 5e     |         |
| 16  | 5a     | 5b     | 5c     | 5d      |
| 17  |        | :      |        | В       |
| 18  | 6f     | 6g     | 6e     |         |
| 19  | 6a     | 6b     | 6c     | 6d      |
| 20  | 7f     | 7g     | 7e     |         |
| 21  | 7a     | 7b     | 7c     | 7d      |
| 22  | KHz    | MHz    | REMAIN | SHUFFLE |
| 23  |        | MEM    | RMS    | A -     |
|     |        |        |        |         |

#### 4-2. BLOCK DIAGRAM

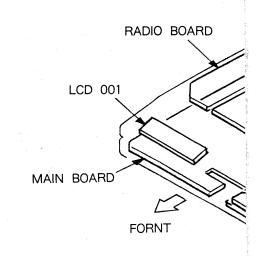


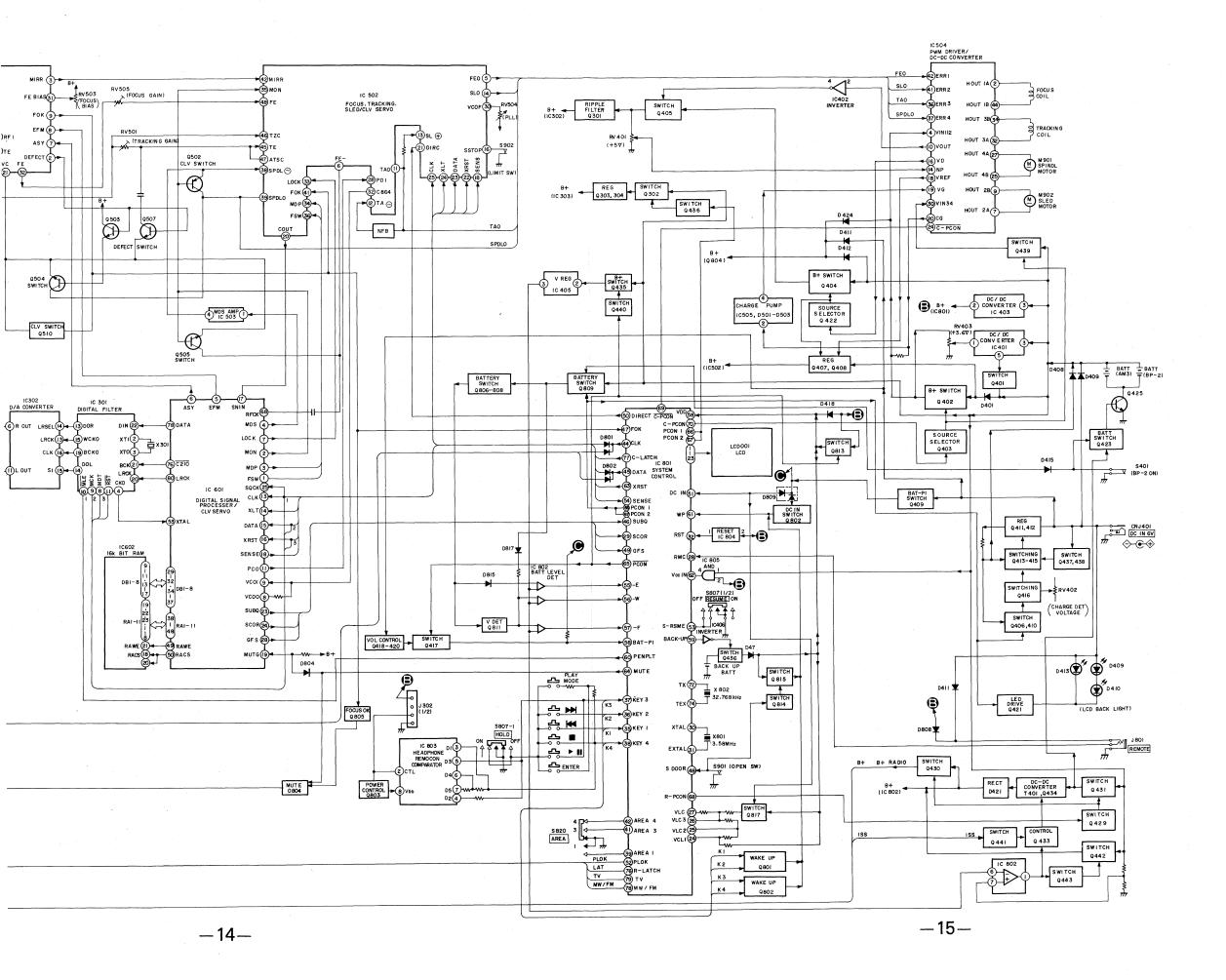
#### 4-3. CIRCUIT BOARD LOCATION





#### 4-3. CIRCUIT BOARD LOCATION



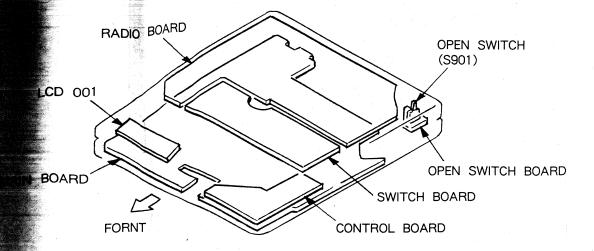


## CUIT BOARD LOCATION

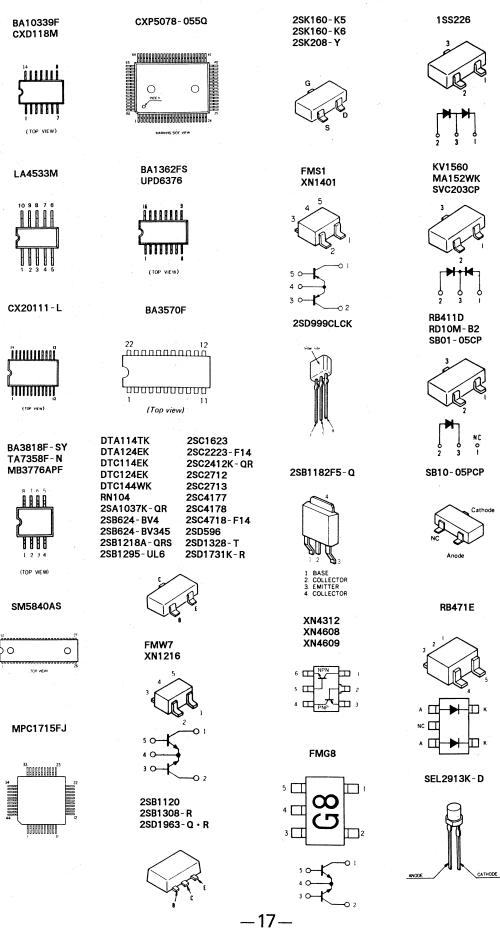
M902 SLED MOTOR

> CNJ40I DC IN 6V

D413 D409



#### 4-4. SEMICONDUCTOR LEAD LAYOUT

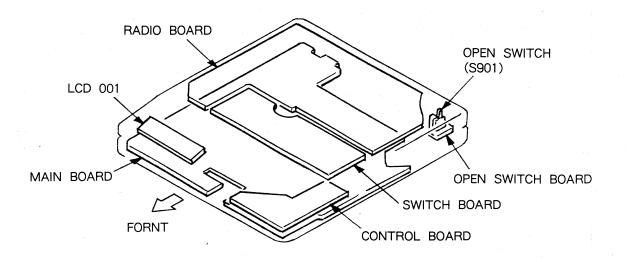


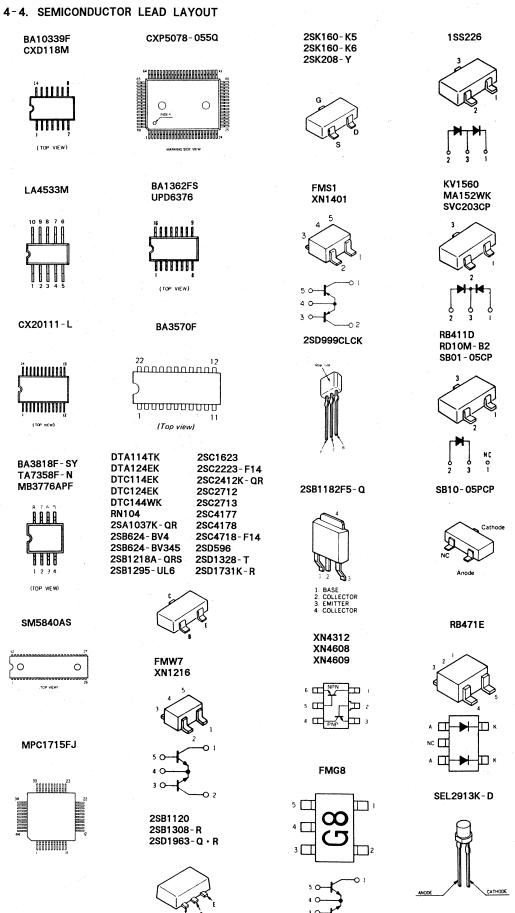
#### 4-3. CIRCUIT BOARD LOCATION

CNJ40I DC IN 6V

D413 D409

D410





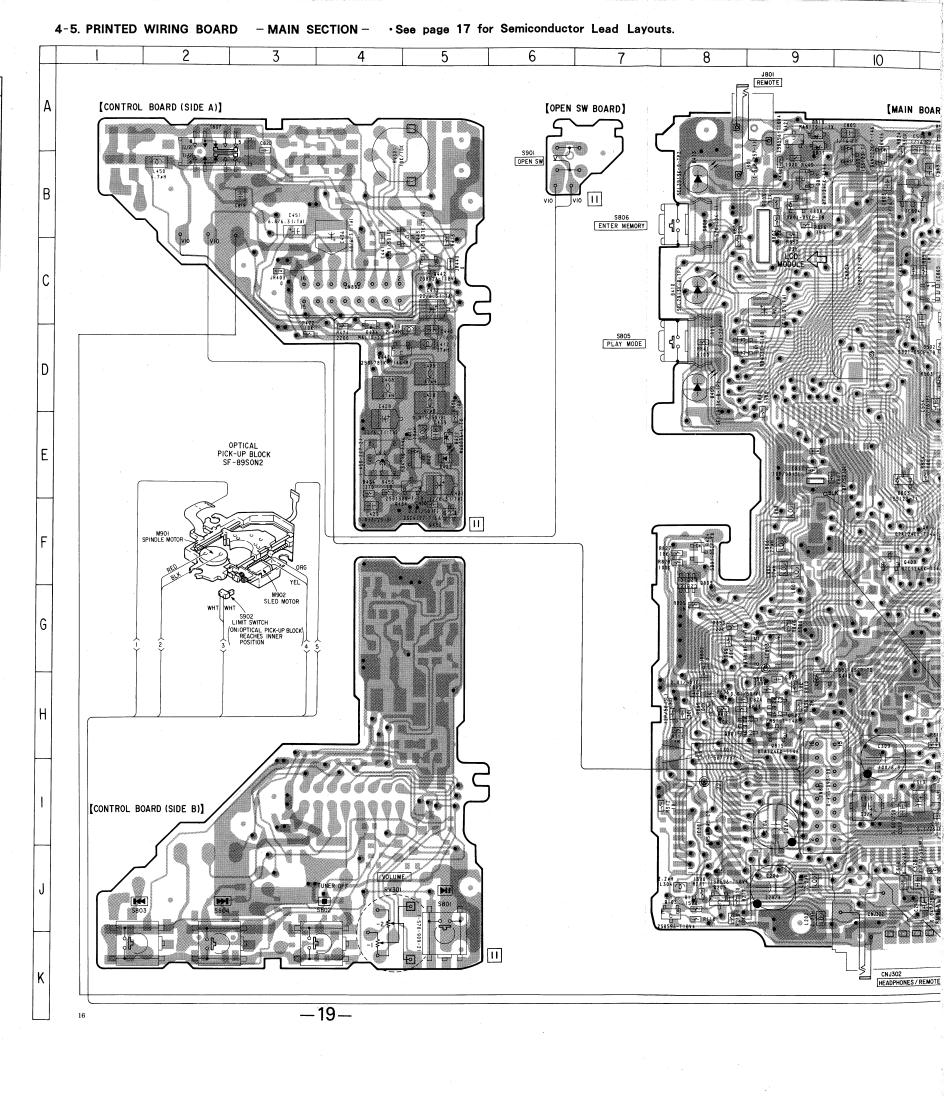
-17-

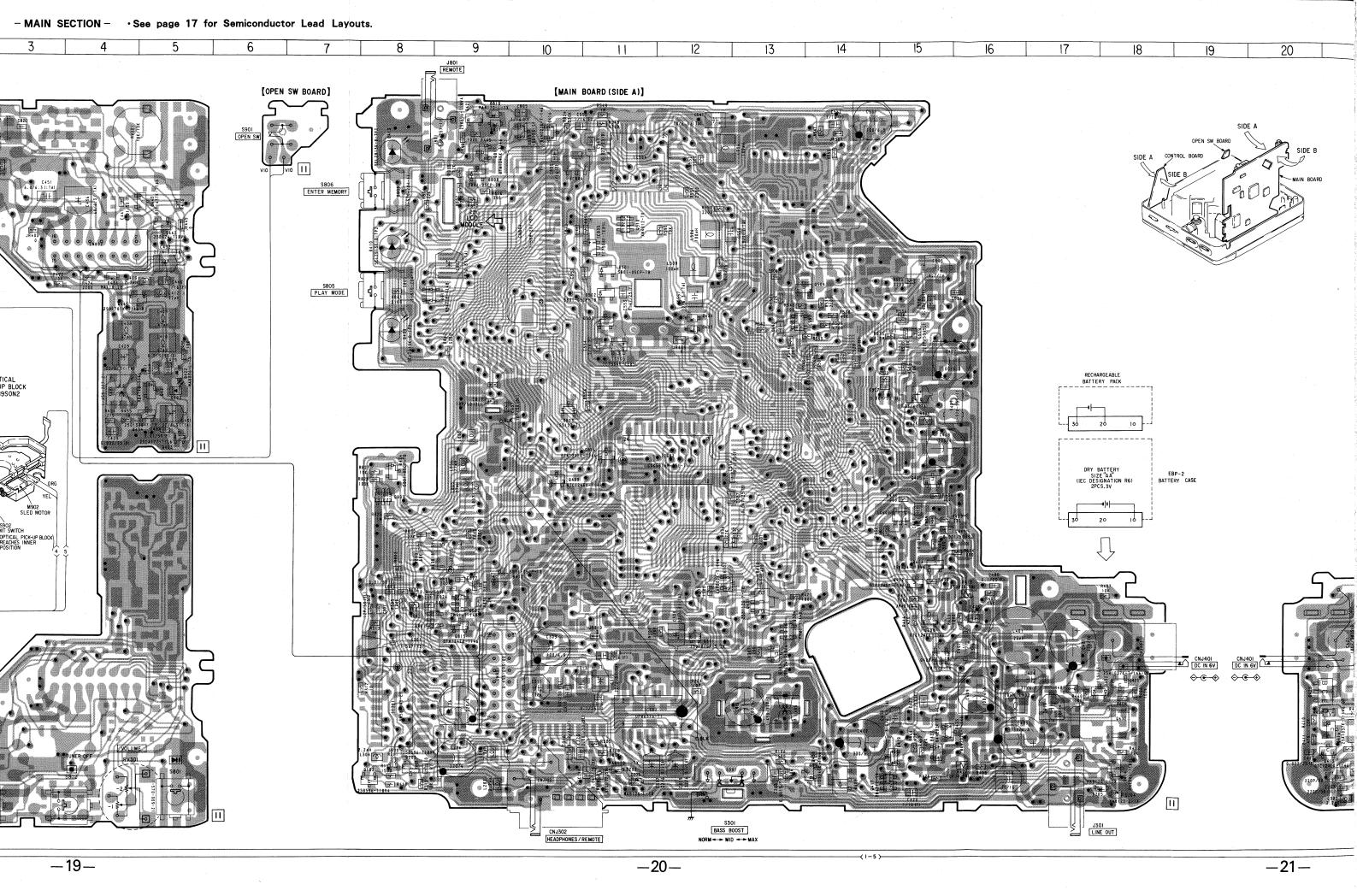
#### Semiconductor Location

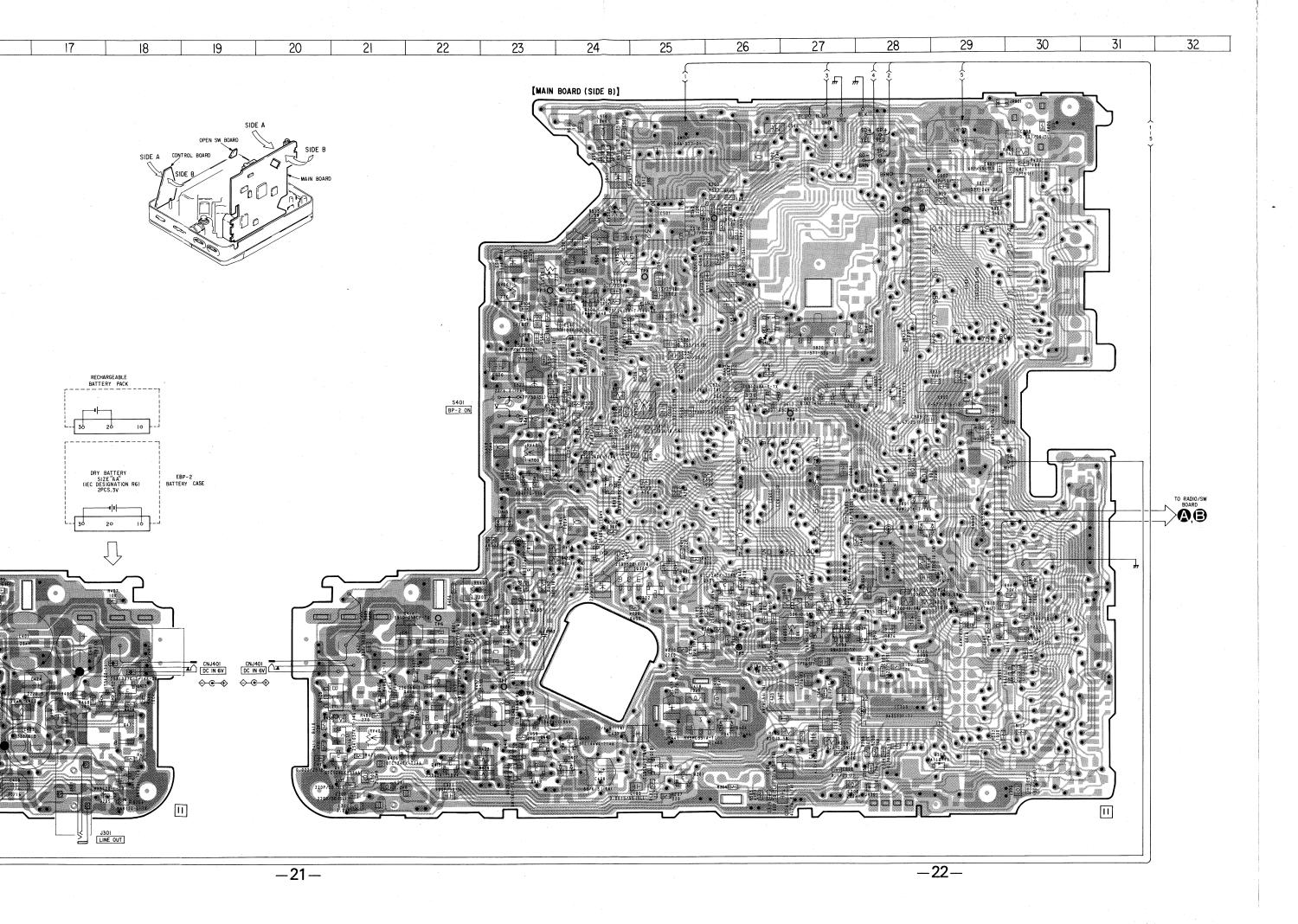
| f. No. Lo<br>2202 J<br>2203 J<br>2204 K<br>2205 K<br>2302 H |  | D202 J-11<br>D203 J-11<br>D204 K-18<br>D205 K-18<br>D302 H-12<br>D303 J-29         |
|---|--|--|
| H J - F H J - J K D C                                       | D302<br>D303<br>D401<br>D402<br>D403<br>D404<br>D405<br>D407<br>D408<br>D409<br>D410 | H-12<br>J-29<br>I-22<br>F-23<br>H-26<br>J-26<br>J-21<br>J-24<br>K-14<br>D-8<br>C-8 |
| I-JKDCDHBH  | D405<br>D407<br>D408<br>D409<br>D410<br>D411<br>D412<br>D413<br>D414                 | I-21<br>J-24<br>K-14<br>D-8<br>C-8<br>D-8<br>H-9<br>B-8<br>H-22                    |
| 1   | D414<br>D415<br>D416<br>D417<br>D418<br>D419<br>D421                                 | 1-22<br>5-23<br>3-10<br>-27<br>-28<br>-15  |
| -   | D422<br>D423<br>D424<br>D427<br>D430<br>D432<br>D433                                 | 5<br>8<br>15<br>25<br>18   |
| -   | D434<br>D435<br>D436<br>D437<br>D445<br>D501<br>D502                                 | 12<br>16<br>4<br>27<br>28<br>11  |
|   | D502<br>D503<br>D801<br>D802<br>D803<br>D804<br>D805<br>D807                         | 11<br>29<br>29<br>10<br>30   |
|   | D808<br>D809<br>D810<br>D811<br>D815<br>D816   | 28<br>9<br>28<br>9<br>9<br>28<br>29  |
| 312   | D817<br>IC301<br>IC302<br>IC303<br>IC401<br>IC402                                    | 1<br>8<br>23<br>15   |
| 2022  | IC403<br>IC405<br>IC406<br>IC501<br>IC502<br>IC503<br>IC504                          | 26<br>3<br>27<br>25<br>4<br>4  |
| 1 2 12 2 2 9 1 (  | IC505<br>IC601<br>IC602<br>IC801<br>IC802<br>IC803<br>IC804                          | 1<br>7<br>2<br>9<br>8  |

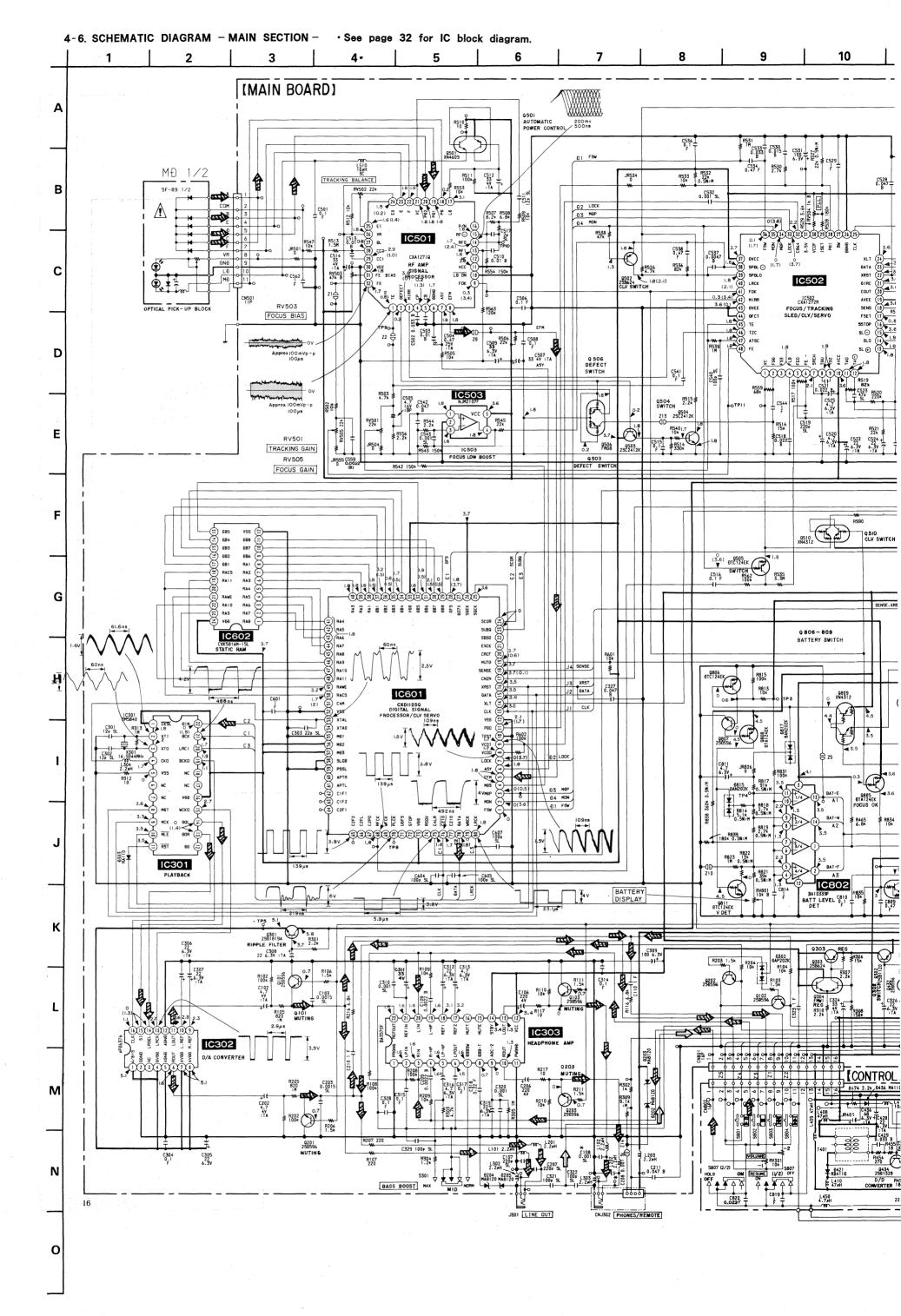
#### Note on Mounting Diagram:

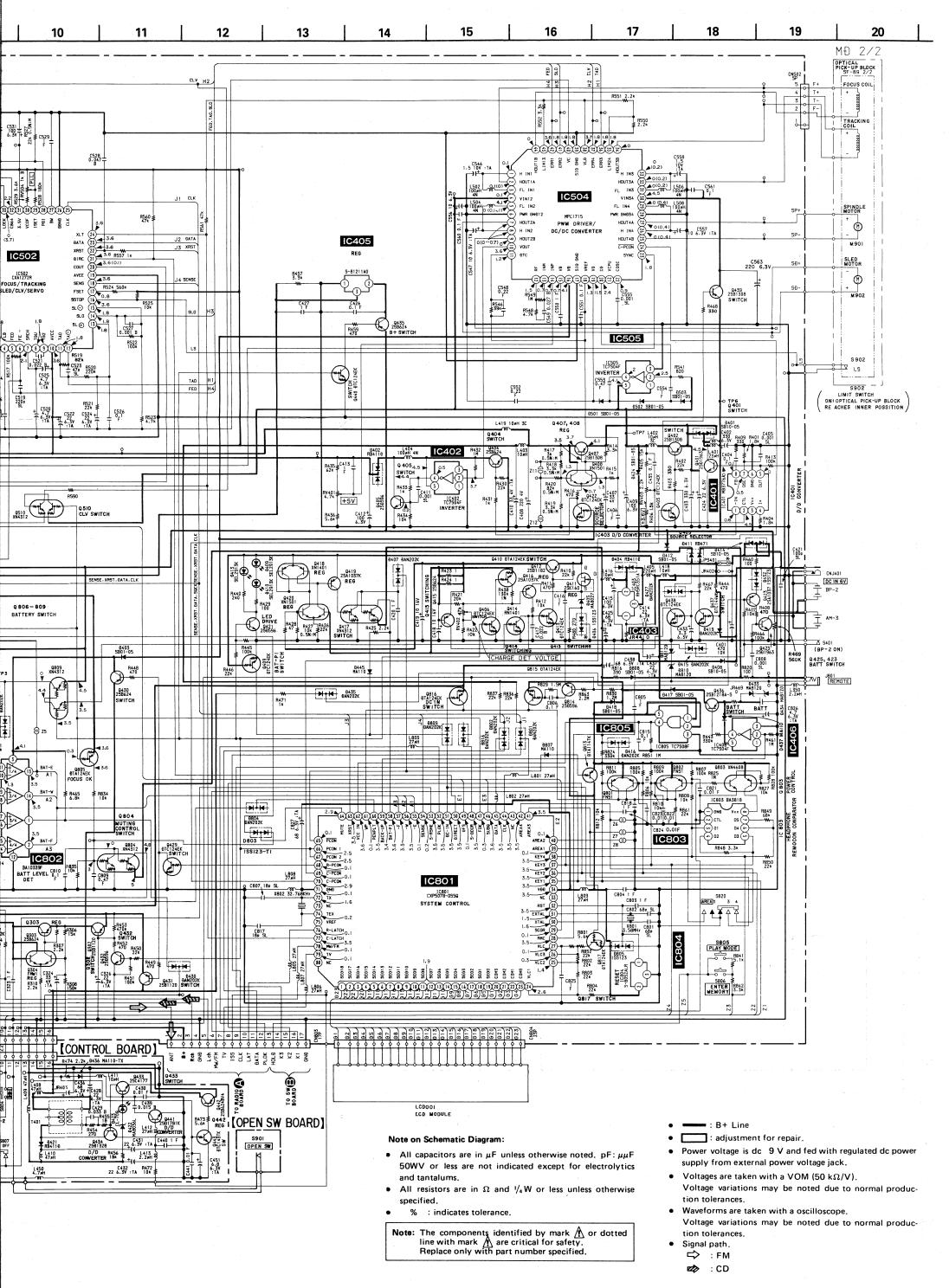
- : parts mounted on the conductor side.
- Through hole.
- Pattern on the side which is seen.
- : Pattern of the rear side.

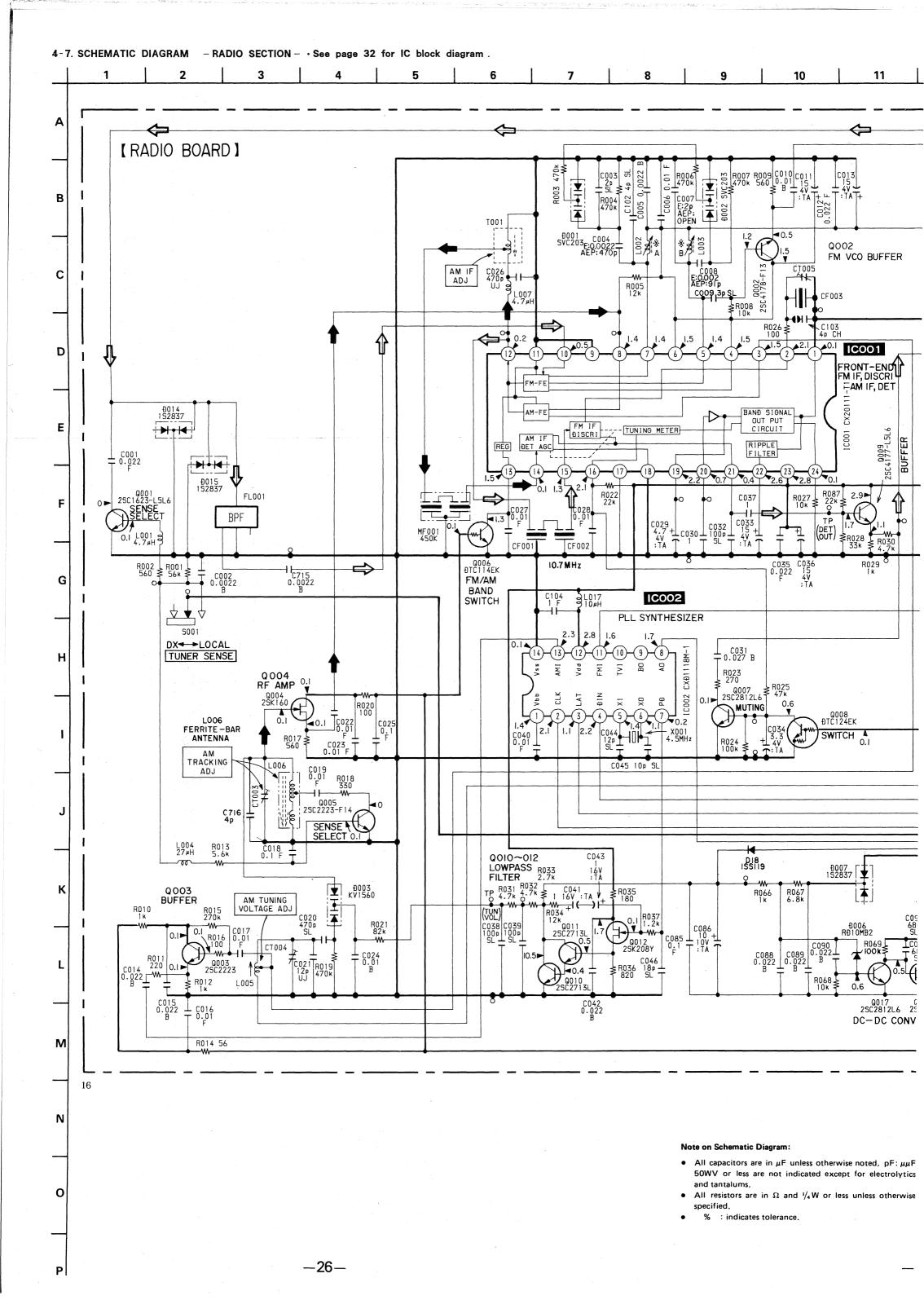


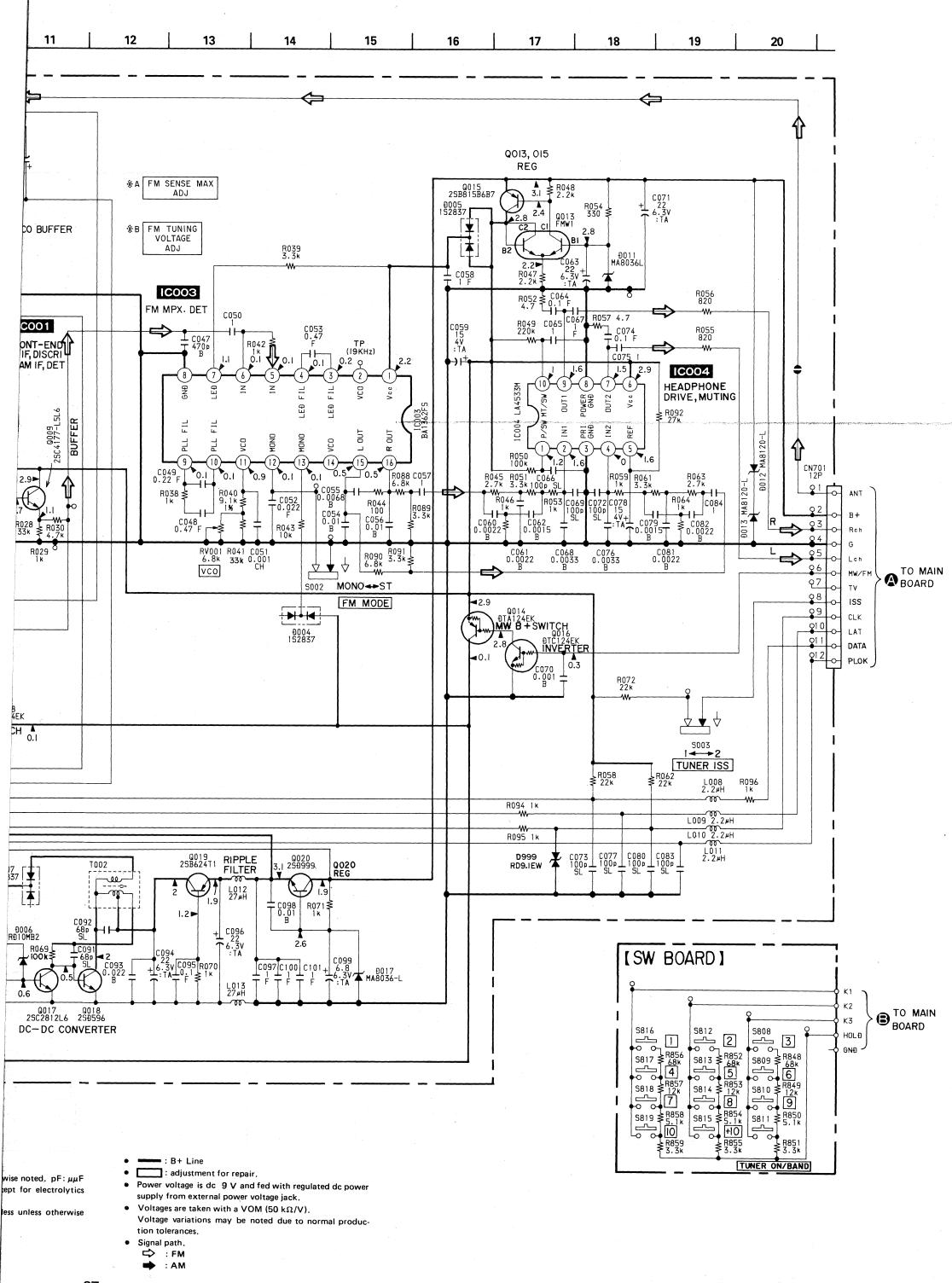




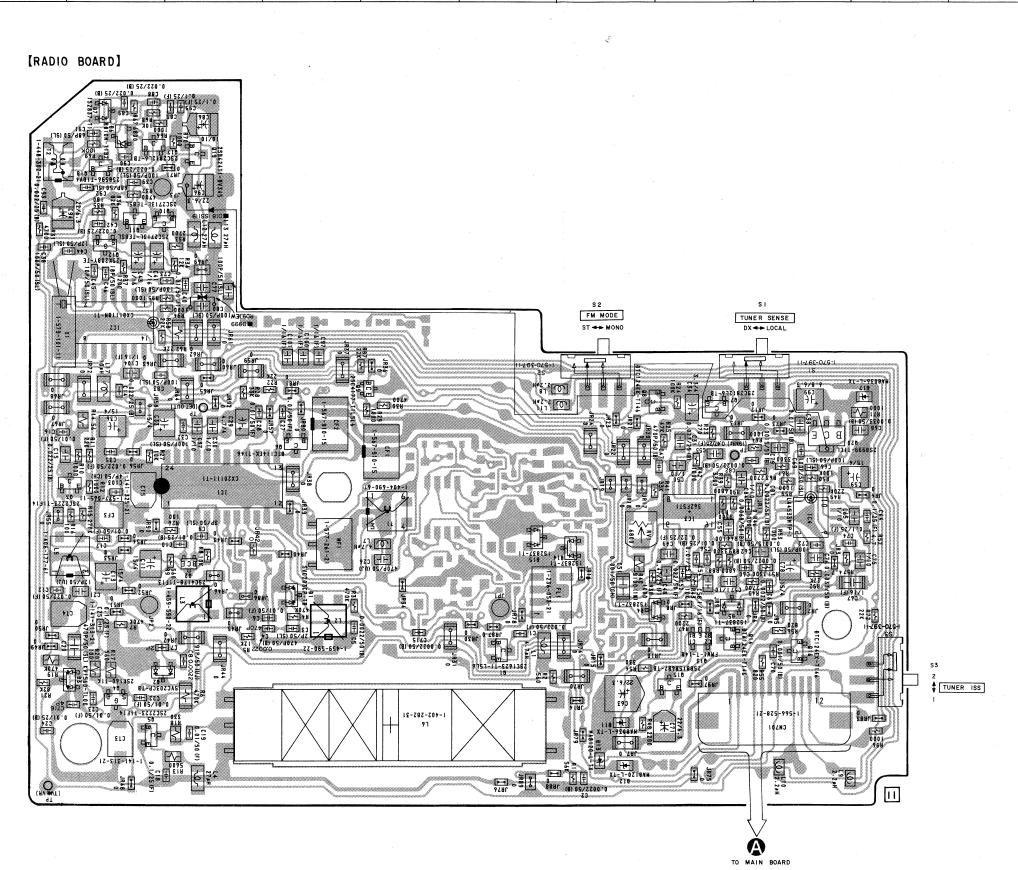






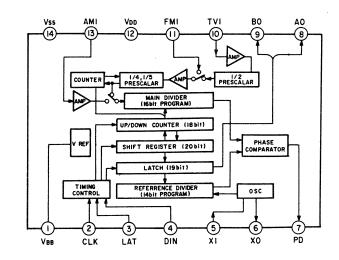


4-8 PRINTED WIRING BOARD - RADIO SECTION - · See page 17 for Semiconductor Lead Layouts. Semiconductor Location [RADIO BOARD] Ref. No. Location D001 D002 D003 D004 D005 D006 D007 D011 D012 D013 D014 D015 D017 D018 D999 C-14 C-16 C-16 C-11 C-10 H-16 B-11 B-11 D-12 E-8 H-15 E-15 F-16 D-10 D-9 [SW BOARD (SIDE A)] IC001 IC002 IC003 IC004 Q001 Q002 Q003 Q004 Q005 Q006 Q007 Q008 Q009 Q010 Q011 Q012 Q013 Q014 Q015 Q016 Q017 Q017 Q018 Q019 Q020 C-12 D-15 E-16 B-16 B-114 E-113 E-113 G-16 G-10 C-10 C-10 H-15 E-9 [SW BOARD (SIDE B)] Note on Mounting Diagram: : parts mounted on the conductor side. : Pattern on the side which is seen. TO MAIN BOARD Pattern of the rear side. -298 9 10 11 12 13 14 15 16 17 18 19 20

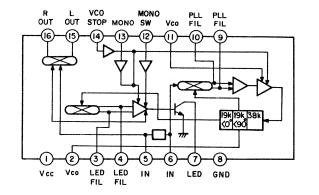


#### 4-9. IC BLOCK DIAGRAM

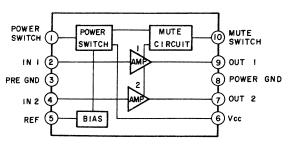
#### IC002 CXD1118M-1



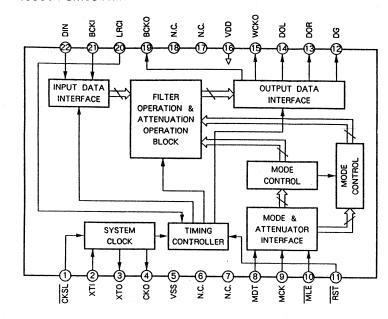
#### IC003 BA1362FS



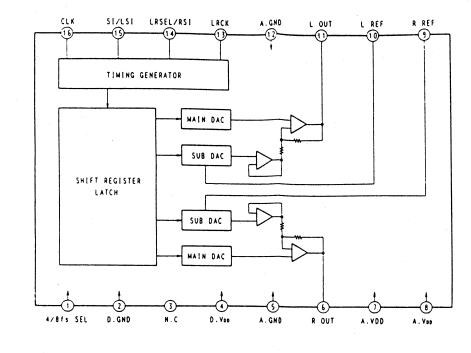
#### IC004 LA4533M



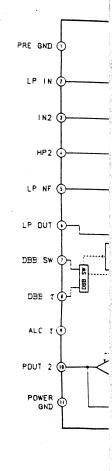
#### IC301 SM5840AS



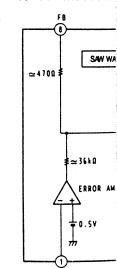
#### IC302 µ PD6376



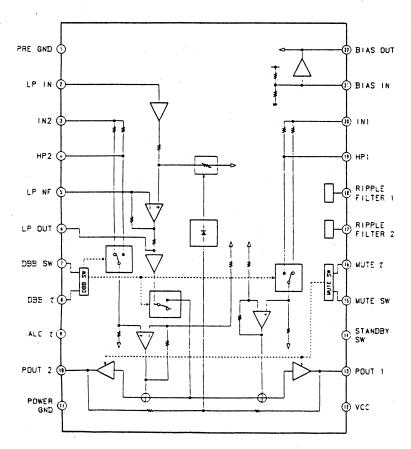
IC303 BA35701



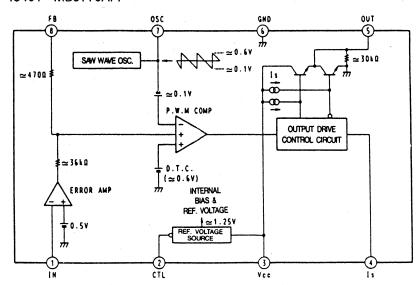
#### IC401 MB3776A



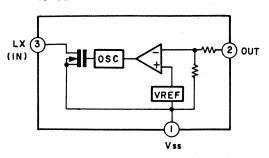
#### IC303 BA3570F



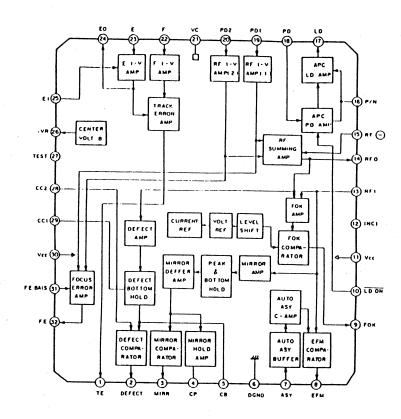
#### IC401 MB3776APF



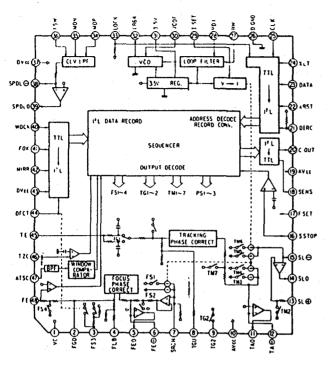
#### IC403 RH5RC351A



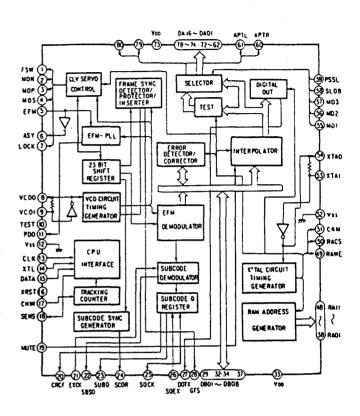
#### IC501 CXA1271Q



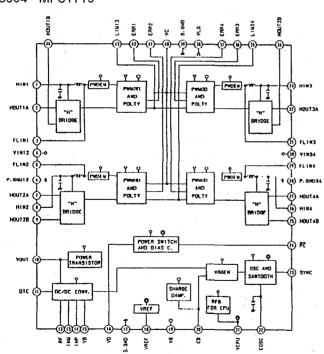
IC502 CXA1272Q



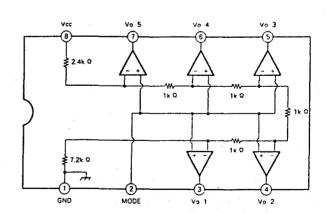
IC601 CXD1125Q



IC504 MPC1715



IC803 BA3818F-SY



### **SECTION 5 EXPLODED VIEWS**

#### NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "\*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part number suffix -XX and -X may be dif-ferent from the parts specified in the components used on the set.
- Color Indication of Appearance Parts Example: (RED) ... KNOB, BALANCE (WHITE)

Parts' Color Cabinet's Color

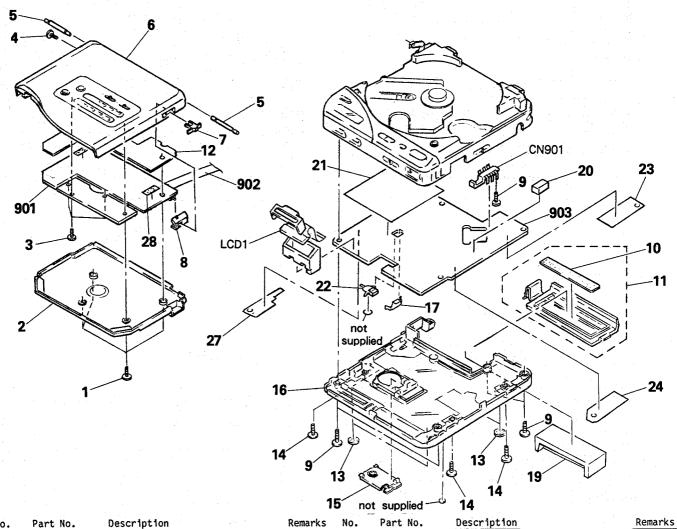
The components identified by mark  $\bigwedge$  or dotted line with mark  $\bigwedge$  are critical for safety. Replace only with part number specified

specified.

Les composants identifiés par une marque A sont critiques pour la sécurité.

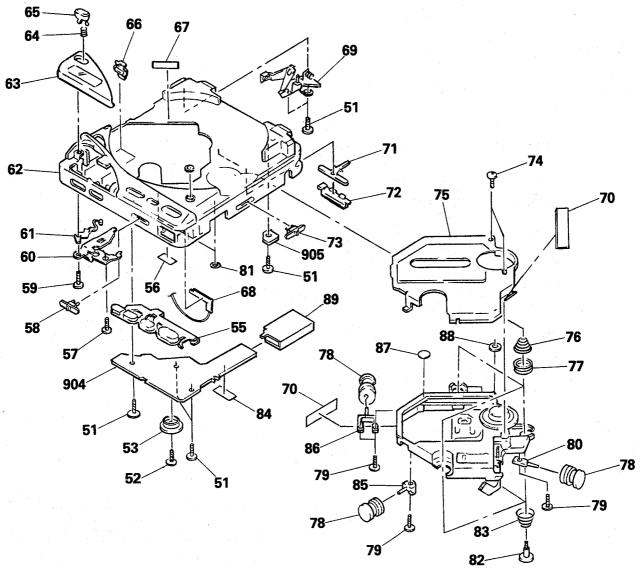
Ne les remplacer que par une pièce portant le numéro spécifé.





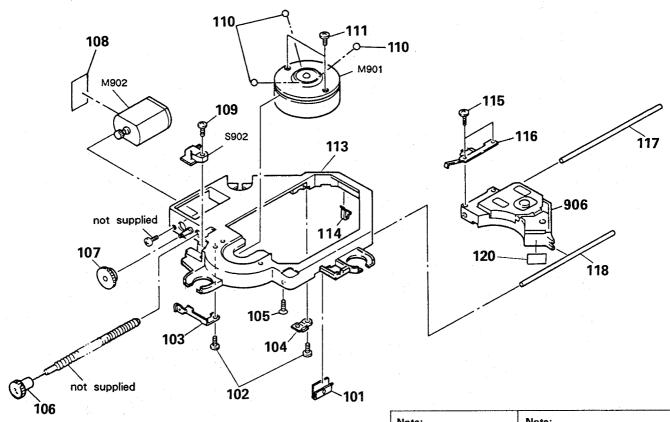
|          |               |   | 1       | <b>b</b> no | ot supplied — | 14   |    |
|----------|---------------|---|---------|-------------|---------------|--|----|
| No.      | Part No.      | Description   | Remarks | No.         | Part No.      | Description  | Re |
| 1        | 4-941-315-01  | SCREW. TAPPING 1.7  |         | 16          | X-4941-051-1  |  |    |
| 2        | 4-941-338-01  | COVER. TUNER  |         | 17          | 4-941-320-01  | LUG (+), LITIUM  |    |
| 3        |               | SCREW (1.7X4), TAPPING (B)                                |         |             |               |  |    |
| 4        | 4-931-890-01  | SCREW (M1.7X0.35)   |         | 18          | *4-941-331-01 | PLATE (MICOM), SHIELD  |    |
|          |               |   |         | 19          | X-4930-117-1  | CASE ASSY, BATTERY   |    |
| 5        | 4-931-825-01  | SHAFT (FULCRUM)   |         | 20          | *4-941-329-01 | CASE (CD UPPER), SHIELD  |    |
| 6        |               | LID SUB ASSY, UPPER                                       |         | 21          | *4-941-330-01 | SHEET (CD), SHIELD   |    |
| 7        | 4-941-324-01  | KNOB (ISS)  |         | Ì           |               | and the second of the second o |    |
| 8        | 4-941-327-01  | SLIDER (ISS)  |         | 22          | 4-941-334-01  | LUG (LITIUM -), BATTERY  |    |
|          |               |   |         | 23          | *4-942-262-01 | SHEET (LINE), INSULATING   |    |
| 9        |               | SCREW (B2X10) (G), TAPPING                                |         | 24          | *4-942-260-01 | SHEET (PHONE), INSULATING  |    |
| 10       |               | CUSHION (A)   |         | 27          | *4-942-261-01 | SHEET (REMOTE), INSULATING   |    |
| 11       |               |   |         | 28          | *4-563-500-01 | SHEET (S), ADHESIVE  |    |
| 12       | *4-941-326-01 | PLATE (TU), SHIELD  |         |             |               |  |    |
| 13       | 4-912-641-01  | FOOT, RUBBER  |         | 901         | A-3015-927-A  | PC BOARD ASSY, RADIO   |    |
| 1.4      | 0.700.016.40  | CODEU (MI AVO E) CDECTAL HEAD                             |         | 902         | 1-636-310-11  | PC BOARD, RADIO FLEXIBLE   |    |
| 14<br>15 | X-4941-050-1  | SCREW (M1.4X2.5), SPECIAL HEAD LID (LITIUM) ASSY, BATTERY |         | 903         | A-3015-925-A  | PC BOARD ASSY, MAIN  |    |
| 15       | X-4941-050-1  | EID (EITION) NOOTS DATIERT                                |         | ]           |               |  |    |

## 5-2. CHASSIS SECTION



| No.                              | Part No.                                     | Description   | Remarks | No.                              | Part No.  | Description   | Remarks |
|----------------------------------|--|---|---------|----------------------------------|---|---|---------|
| 51<br>52<br>53<br>55<br>56       |  |   |         | 74<br>75<br>76<br>77<br>78       | 3-893-942-01<br>4-931-854-01<br>4-931-893-01<br>4-931-834-01<br>3-323-234-11                  | SCREW (1.7X4), TAPPING (B)<br>COVER, MD<br>SPRING (B)(WHT)<br>RETAINER, SPRING<br>DAMPER (2), HYPER |         |
| 57<br>58<br>59<br>60<br>61<br>62 | 4-931-841-01                                 | SCREW (M1.4X5.0), SPECIAL HEAD PLATE (LOCK), FIXED  |         | 79<br>80<br>81<br>82<br>83       | 3-318-203-71<br>4-931-866-01<br>3-831-441-11<br>4-924-718-01<br>4-931-835-01                  | SCREW (B1.7X5), TAPPING SHAFT (A), DAMPER CUSHION (B) SCREW, INSULATOR SPRING (BLK)                 |         |
| 63<br>64<br>65<br>66<br>67       |  | WINDOW (LCD) ASSY<br>SPRING (OPEN)<br>BUTTON (OPEN)<br>BUTTON (MODE)                                      |         | 84<br>85<br>86<br>87<br>88<br>89 | 4-941-190-01<br>4-931-868-01<br>4-931-867-01<br>4-917-784-01<br>4-927-949-01<br>*4-941-328-01 | SPACER (PAL) SHAFT (C), DAMPER SHAFT (B), DAMPER SPACER (S) WASHER COVER, SHIELD                    |         |
| 68<br>69<br>70<br>71<br>72<br>73 | X-4941-053-1<br>3-831-441-XX<br>4-931-839-01 | PAPER (VOL), SHIELD PLATE ASSY, SWITCHING SPACER, KNOB ARM, DETECTION PLATE (DETECTION), FIXED KNOB (DBB) |         | 904<br>905                       | *1-636-311-11<br>*1-636-313-11  | PC BOARD, CONTROL<br>PC BOARD, OPEN SW  |         |

#### 5-3. MECHANISM SECTION (CDM-66)



Note:
The components identified by mark A or dotted line with mark are critical for safety.
Replace only with part number specified.

Note:

Les composants identifiés par une marque sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

| No.                             | Part No.   | Description    | Remarks | No.                             | Part No.   | Description   | Remarks |
|---------------------------------|--|----------------|---------|---------------------------------|--|---|---------|
| 101<br>102<br>103<br>104<br>105 | 4-932-779-11<br>3-895-823-41<br>4-931-863-01<br>4-932-776-01<br>4-941-983-01 |                |         | 111<br>113<br>114<br>115<br>116 | 7-627-450-48<br>4-931-864-01<br>4-932-777-01<br>3-303-809-01<br>4-932-785-11 | SCREW, PRECISION +K1.7X2.5 TYPE1<br>CHASSIS, MD<br>RETAINER (B), FLEXIBLE<br>SCREW (M1.7X2.0), SPECIAL HEAD<br>RACK (OUTSERT) |         |
| 106<br>107<br>108<br>109<br>110 | 4-932-774-01<br>4-931-861-01<br>3-831-441-11<br>4-908-792-91<br>7-671-155-01 | CUSHION (B)    |         | 117<br>118<br>119<br>120        | 4-932-784-01<br>4-931-862-01<br>4-941-987-01<br>4-941-190-01                 |   |         |
| 110                             | 7-071-135-01   | STEEL BALL 3.0 |         | 906 /<br>M902<br>S902<br>M901   | A.X-4930-137-1<br>X-4921-256-1<br>1-572-025-11<br>A-3133-413-A               | PICKUP, OPTICAL (SF-89SON2)<br>MOTOR, SLED<br>MICRO SW<br>MOTOR ASSY, CLV   |         |

## **SECTION 6 ELECTRICAL PARTS LIST**

#### NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "\*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS: MF: μF, PF: μμF.

#### RESISTORS

All resistors are in ohms. F: nonflammable

COILS
• MMH: mH, UH: μH

#### **SEMICONDUCTORS**

In each case, U: μ, for example: UA...: μΑ..., UPA...: μPA..., UPC...: μPC, UPD...: μPD...

The components identified by mark A or dotted line with mark A are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque  $\bigwedge$  sont critiques pour la sécurité.

Ne les remplacer que par une pièce portant le numéro spécifié.

| Ref.No.                     | Part No.   | Description   |  | Ref.No.                      | Part No.   | Description   |                         |                        |
|-----------------------------|--|---|--|------------------------------|--|---|-------------------------|------------------------|
| 901<br>902<br>903           | A-3015-927-A<br>1-636-310-11<br>A-3015-925-A                 |   |  | C031<br>C032<br>C033<br>C034 | 1-163-986-00<br>1-162-953-11<br>1-135-158-21<br>1-135-180-21 | CERAMIC CHIP 0.027MF<br>CERAMIC CHIP 100PF<br>TANTAL. CHIP 15MF<br>TANTAL. CHIP 3.3MF | 10%<br>5%<br>20%<br>20% | 25V<br>50V<br>4V<br>4V |
|                             | *1-636-311-11<br>*1-636-313-11<br>\(\darkappa x-4930-137-1   | PC BOARD, OPEN SW<br>PICKUP, OPTICAL (SF-89SON2                   |  | C035<br>C036<br>C037         | 1-162-995-11<br>1-135-158-21<br>1-164-234-11                 | CERAMIC CHIP 0.022MF<br>TANTAL. CHIP 15MF<br>CERAMIC CHIP 1MF                         | 20%                     | 50V<br>4V<br>10V       |
| C41<br>C43<br>C44           | 1-135-091-00<br>1-135-091-00<br>1-162-942-11                 | TANTAL. CHIP 1MF 1<br>CERAMIC CHIP 12PF 5                         | 10% 16V<br>10% 16V<br>5% 50V             | C038<br>C039<br>C040         | 1-162-953-11<br>1-162-953-11<br>1-162-974-11                 | CERAMIC CHIP 100PF<br>CERAMIC CHIP 100PF<br>CERAMIC CHIP 0.01MF                       | 5%<br>5%                | 50V<br>50V<br>50V      |
| C45<br>C48<br>C53           | 1-162-941-11<br>1-164-005-11<br>1-164-005-11                 | CERAMIC CHIP 0.47MF<br>CERAMIC CHIP 0.47MF                        | 0.5PF 50V<br>25V<br>25V                  | C042<br>C046<br>C047         | 1-164-227-11<br>1-162-944-11<br>1-162-962-11                 | CERAMIC CHIP 0.022MF<br>CERAMIC CHIP 18PF<br>CERAMIC CHIP 470PF                       | 10%<br>5%<br>10%        | 25V<br>50V<br>50V      |
| C63<br>C001<br>C002<br>C003 | 1-135-207-11<br>1-162-995-11<br>1-162-966-11<br>1-162-932-11 | CERAMIC CHIP 0.022MF CERAMIC CHIP 0.0022MF 1                      | 20% 6.3V<br>50V<br>10% 50V<br>0.25PF 50V | C049<br>C050<br>C051         | 1-164-222-11<br>1-164-234-11<br>1-163-141-00                 | CERAMIC CHIP 0.22MF<br>CERAMIC CHIP 1MF<br>CERAMIC CHIP 0.001MF                       | 1%                      | 25V<br>10V<br>50V      |
| C004<br>C004                | 1-162-962-11<br>1-162-966-11                                 | (AEP)CERAMIC CHIP 470PF<br>(E)CERAMIC CHIP 0.002                  | 22MF 10% 50V                             | C052<br>C054<br>C055         | 1-162-995-11<br>1-162-970-11<br>1-163-019-00                 | CERAMIC CHIP 0.022MF<br>CERAMIC CHIP 0.01MF<br>CERAMIC CHIP 0.0068MF                  | 10%<br>10%              | 50V<br>25V<br>50V      |
| C005<br>C006<br>C007        | 1-162-966-11<br>1-162-974-11<br>1-162-932-11                 | CERAMIC CHIP 0.01MF<br>(E)CERAMIC CHIP 2PF                        | 50V<br>50V<br>50V                        | C056<br>C057<br>C058         | 1-162-970-11<br>1-164-234-11<br>1-164-346-11                 | CERAMIC CHIP 0.01MF<br>CERAMIC CHIP 1MF<br>CERAMIC CHIP 1MF                           | 10%                     | 25V<br>10V<br>16V      |
| C008<br>C009                | 1-162-999-11<br>1-162-966-11<br>1-162-934-11                 | (AEP)CERAMIC CHIP 91PF (E)CERAMIC CHIP 0.002 CERAMIC CHIP 3PF     |  | C059<br>C060<br>C061         | 1-135-158-21   | TANTAL. CHIP 15MF<br>CERAMIC CHIP 0.0022MF  | 20%                     | 4V<br>50V              |
| C010<br>C011                | 1-162-970-11<br>1-135-158-21                                 | CERAMIC CHIP 0.01MF 1<br>TANTAL. CHIP 15MF 2                      | 0% 25V<br>20% 4V                         | C062<br>C063                 | 1-163-011-11<br>1-135-144-11                                 | CERAMIC CHIP 0.0022MF CERAMIC CHIP 0.0015MF ELECT CHIP 22MF                           | 10%<br>10%<br>20%       | 50V<br>50V<br>6.3V     |
| C012<br>C013<br>C014        | 1-162-995-11<br>1-135-158-21<br>1-164-227-11                 |   | 50V<br>20% 4V<br>10% 25V                 | C064<br>C065<br>C066         | 1-164-156-11<br>1-164-234-11<br>1-162-953-11                 | CERAMIC CHIP 0.1MF CERAMIC CHIP 1MF CERAMIC CHIP 100PF                                | - 5%                    | 25V<br>1 OV<br>5 OV    |
| C015<br>C016<br>C017        | 1-163-037-11<br>1-162-974-11<br>1-162-974-11                 | CERAMIC CHIP 0.022MF CERAMIC CHIP 0.01MF CERAMIC CHIP 0.01MF      | 0% 25V<br>50V<br>50V                     | C067<br>C068                 | 1-162-638-11   | CERAMIC CHIP 1MF CERAMIC CHIP 0.0033MF  | 10%                     | 16V<br>50V             |
| C018<br>C019<br>C020        | 1-164-156-11<br>1-162-974-11<br>1-163-197-00                 | CERAMIC CHIP 0.1MF<br>CERAMIC CHIP 0.01MF<br>CERAMIC CHIP 470PF 5 | 25V<br>50V<br>5% 50V                     | C069<br>C070                 | 1-162-953-11<br>1-162-964-11<br>1-135-144-11                 | CERAMIC CHIP 100PF<br>CERAMIC CHIP 0.001MF<br>TANTAL. CHIP 22MF                       | 5%<br>10%<br>20%        | 50V<br>50V<br>6.3V     |
| C021<br>C022<br>C023        | 1-162-974-11   | CERAMIC CHIP 12PF 5 CERAMIC CHIP 0.01MF CERAMIC CHIP 0.01MF       | 5% 50V<br>50V<br>50V                     | C072<br>C073                 | 1-162-953-11<br>1-162-953-11                                 | CERAMIC CHIP 100PF CERAMIC CHIP 100PF   | 5%<br>5%                | 50V<br>50V<br>25V      |
| C024<br>C025                | 1-162-970-11<br>1-164-156-11                                 | CERAMIC CHIP 0.01MF 1<br>CERAMIC CHIP 0.1MF                       | 0% 25V<br>25V                            | C074<br>C075<br>C076         | 1-164-234-11   | CERAMIC CHIP 0.1MF<br>CERAMIC CHIP 1MF<br>CERAMIC CHIP 0.0033MF                       | 10%                     | 1 0V<br>5 0V           |
| C026<br>C027<br>C028        | 1-163-133-00<br>1-162-974-11<br>1-162-974-11                 | CERAMIC CHIP 470PF 5 CERAMIC CHIP 0.01MF CERAMIC CHIP 0.01MF      | 5% 50V<br>50V<br>50V                     | C077<br>C078<br>C079         | 1-163-117-00<br>1-135-158-21<br>1-163-011-11                 | CERAMIC CHIP 100PF<br>TANTAL. CHIP 15MF<br>CERAMIC CHIP 0.0015MF                      | 5%<br>20%<br>10%        | 50V<br>4V<br>50V       |
| C029<br>C030                | 1-135-151-21<br>1-164-234-11                                 |   | 20% 4V<br>10V                            | C080<br>C081<br>C082         | 1-163-117-00<br>1-162-966-11<br>1-162-966-11                 | CERAMIC CHIP 100PF<br>GERAMIC CHIP 0.0022MF<br>CERAMIC CHIP 0.0022MF                  | 5%<br>10%<br>10%        | 50V<br>50V<br>50V      |
|                             |  |   |  |                              |  |   |                         |                        |

| Ref.No.                      | Part No.                                     | Description   |                   |                          | Ref.No.                      | Part No.   | Description  |                            |                           |
|------------------------------|--|---|-------------------|--------------------------|------------------------------|--|--|----------------------------|---------------------------|
| C083<br>C084<br>C085<br>C086 | 1-164-234-11                                 | CERAMIC CHIP 100PF<br>CERAMIC CHIP 1MF<br>CERAMIC CHIP G.1MF<br>TANTAL. CHIP 10MF | 5%<br>20%         | 50V<br>10V<br>25V<br>10V | C328<br>C329<br>C401<br>C402 | 1-164-156-11<br>1-162-953-11<br>1-124-472-11<br>1-126-245-11 | CERAMIC CHIP 100PF<br>ELECT 470MF                                | 5%<br>20%<br>20%           | 25V<br>50V<br>10V<br>6.3V |
| C088<br>C089<br>C090         | 1-164-227-11<br>1-164-227-11<br>1-164-227-11 | CERAMIC CHIP 0.022MF<br>CERAMIC CHIP 0.022MF<br>CERAMIC CHIP 0.022MF              | 10%<br>10%<br>10% | 25V<br>25V<br>25V        | C403<br>C404<br>C405         | 1-126-245-11<br>1-164-156-11<br>1-163-141-00                 |  | 20%<br>5%                  | 6.3V<br>25V<br>50V        |
| C091<br>C092<br>C093         | 1-162-951-11<br>1-162-951-11<br>1-164-227-11 | CERAMIC CHIP 68PF<br>CERAMIC CHIP 68PF<br>CERAMIC CHIP 0.022MF                    | 5%<br>5%<br>10%   | 50V<br>50V<br>25V        | C406<br>C407<br>C408         | 1-164-346-11<br>1-126-207-11<br>1-126-246-11                 | ELECT CHIP 33MF  | 20%<br>20%                 | 16V<br>4V<br>4V           |
| C094<br>C095<br>C096         | 1-135-144-11<br>1-164-156-11<br>1-135-144-11 | TANTAL. CHIP 22MF<br>CERAMIC CHIP 0.1MF<br>TANTAL. CHIP 22MF                      | 20%<br>20%        | 6.3V<br>25V<br>6.3V      | C409<br>C410<br>C411         | 1-126-206-11<br>1-135-162-21<br>1-163-141-00                 | ELECT CHIP 100MF<br>TANTAL. CHIP 33MF<br>CERAMIC CHIP 0.001MF    | 20%<br>20%<br>5%           | 6.3V<br>4V<br>50V         |
| C097<br>C098<br>C099         | 1-164-346-11<br>1-164-232-11<br>1-135-156-21 | CERAMIC CHIP 1MF<br>CERAMIC CHIP 0.01MF<br>TANTAL. CHIP 6.8MF                     | 10%<br>20%        | 16V<br>50V<br>6.3V       | C412<br>C413<br>C414         | 1-126-206-11<br>1-164-346-11<br>1-135-144-11                 | ELECT CHIP 100MF<br>CERAMIC CHIP 1MF<br>TANTAL. CHIP 22MF        | 20%<br>20%                 | 6.3V<br>16V<br>6.3V       |
| C100<br>C101<br>C102         | 1-164-346-11<br>1-164-346-11<br>1-135-151-21 | CERAMIC CHIP 1MF<br>CERAMIC CHIP 1MF<br>TANTAL. CHIP 4.7MF                        | 20%               | 16V<br>16V<br>4V         | C415<br>C416<br>C417         | 1-126-206-11<br>1-164-346-11<br>1-164-227-11                 | ELECT CHIP 100MF<br>CERAMIC CHIP 1MF<br>CERAMIC CHIP 0.022MF     | 20%<br>10%                 | 6.3V<br>16V<br>25V        |
| C1 03<br>C1 04<br>C1 06      | 1-163-145-00<br>1-164-346-11<br>1-126-246-11 | CERAMIC CHIP 0.0015MF<br>CERAMIC CHIP 1MF<br>ELECT CHIP 220MF                     | 5%<br>20%         | 50V<br>16V<br>4V         | C418<br>C419<br>C420         | 1-124-779-00<br>1-124-779-00<br>1-164-346-11                 | ELECT CHIP 1 OMF<br>ELECT CHIP 1 OMF<br>CERAMIC CHIP 1 MF        | 20 <b>%</b><br>20 <b>%</b> | 16V<br>16V<br>16V         |
| C107<br>C109<br>C110         | 1-162-957-11<br>1-162-966-11<br>1-164-346-11 | CERAMIC CHIP 220PF<br>CERAMIC CHIP 0.0022MF<br>CERAMIC CHIP 1MF                   | 5%<br>10%         | 50V<br>50V<br>16V        | C421<br>C424<br>C425         | 1-162-953-11<br>1-124-778-00<br>1-135-207-11                 |  | 5%<br>20%<br>20%           | 50V<br>6.3V<br>6.3V       |
| C202<br>C203<br>C206         |  | TANTAL. CHIP 4.7MF<br>CERAMIC CHIP 0.0015MF<br>ELECT CHIP 220MF                   | 20%<br>5%<br>20%  | 4V<br>50V<br>4V          | C426<br>C427<br>C428         | 1-164-156-11<br>1-164-346-11<br>1-135-144-11                 | CERAMIC CHIP 0.1MF<br>CERAMIC CHIP 1MF<br>TANTAL. CHIP 22MF      | 20%                        | 25V<br>16V<br>6.3V        |
| C207<br>C209<br>C210         | 1-162-957-11<br>1-162-966-11<br>1-164-346-11 | CERAMIC CHIP 220PF<br>CERAMIC CHIP 0.0022MF<br>CERAMIC CHIP 1MF                   | 5%<br>10%         | 50V<br>50V<br>16V        | C429<br>C430<br>C431         | 1-163-989-11<br>1-162-974-11<br>1-135-144-11                 | CERAMIC CHIP 0.033MF<br>CERAMIC CHIP 0.01MF<br>TANTAL. CHIP 22MF | 10%<br>20%                 | 25V<br>50V<br>6.3V        |
| C211<br>C301<br>C302         | 1-163-809-11<br>1-162-942-11<br>1-162-942-11 | CERAMIC CHIP 0.047MF<br>CERAMIC CHIP 12PF<br>CERAMIC CHIP 12PF                    | 10%<br>5%<br>5%   | 25V<br>50V<br>50V        | C432<br>C433<br>C435         | 1-135-144-11<br>1-135-180-21<br>1-164-156-11                 | TANTAL. CHIP 22MF<br>TANTAL. CHIP 3.3MF<br>CERAMIC CHIP 0.1MF    | 20%<br>20%                 | 6.3V<br>6.3V<br>25V       |
| C303<br>C304<br>C305         | 1-162-945-11<br>1-164-156-11<br>1-135-144-11 | CERAMIC CHIP 22PF<br>CERAMIC CHIP 0.1MF<br>TANTAL. CHIP 22MF                      | 5%<br>20%         | 50V<br>25V<br>6.3V       | C436<br>C437<br>C438         | 1-135-207-11<br>1-135-144-11<br>1-135-207-11                 | TANTAL. CHIP 68MF<br>TANTAL. CHIP 22MF<br>TANTAL. CHIP 68MF      | 20%<br>20%<br>20%          | 6.3V<br>6.3V<br>6.3V      |
| C306<br>C307<br>C308         | 1-135-144-11<br>1-135-144-11<br>1-135-144-11 | TANTAL. CHIP 22MF<br>TANTAL. CHIP 22MF<br>TANTAL. CHIP 22MF                       | 20%<br>20%<br>20% | 6.3V<br>6.3V<br>6.3V     | C439<br>C440<br>C441         | 1-163-023-00<br>1-164-346-11<br>1-162-974-11                 | CERAMIC CHIP 0.015MF<br>CERAMIC CHIP 1MF<br>CERAMIC CHIP 0.01MF  | 10%                        | 50V<br>16V<br>50V         |
| C309<br>C310<br>C311         | 1-126-206-11<br>1-163-141-00<br>1-126-207-11 | ELECT CHIP 100MF<br>CERAMIC CHIP 0.001MF<br>ELECT CHIP 33MF                       | 20%<br>5%<br>20%  | 6.3V<br>50V<br>4V        | C451<br>C501<br>C502         | 1-135-230-11<br>1-164-156-11<br>1-163-989-11                 | TANTAL. CHIP 6.8MF<br>CERAMIC CHIP 0.1MF<br>CERAMIC CHIP 0.033MF | 20%<br>10%                 | 6.3V<br>25V<br>25V        |
| C312<br>C313<br>C314         | 1-135-144-11<br>1-135-130-11<br>1-164-156-11 | TANTAL. CHIP 22MF<br>TANTAL. CHIP 4.7MF<br>CERAMIC CHIP 0.1MF                     | 20%<br>20%        | 6.3V<br>6.3V<br>25V      | C503<br>C504<br>C505         | 1-164-232-11<br>1-135-145-11<br>1-126-603-11                 | CERAMIC CHIP 0.01MF<br>TANTAL. CHIP 0.47MF<br>ELECT CHIP 4.7MF   | 10%<br>20%<br>20%          | 50V<br>25V<br>16V         |
| C315<br>C316<br>C317         | 1-164-156-11<br>1-135-130-11<br>1-164-156-11 | CERAMIC CHIP 0.1MF<br>TANTAL. CHIP 4.7MF<br>CERAMIC CHIP 0.1MF                    | 20%               | 25V<br>6.3V<br>25V       | C506<br>C507<br>C508         | 1-164-156-11<br>1-135-162-21<br>1-164-156-11                 | CERAMIC CHIP 0.1MF<br>TANTAL. CHIP 33MF<br>CERAMIC CHIP 0.1MF    | 20%                        | 25V<br>4V<br>25V          |
| C318<br>C319<br>C320         | 1-164-222-11<br>1-135-144-11<br>1-163-141-00 | CERAMIC CHIP 0.22MF<br>TANTAL. CHIP 22MF<br>CERAMIC CHIP 0.001MF                  | 20%<br>5%         | 25V<br>6.3V<br>50V       | C510                         | 1-135-162-21<br>1-164-232-11<br>1-162-942-11                 | TANTAL. CHIP 33MF<br>CERAMIC CHIP 0.01MF<br>CERAMIC CHIP 12PF    | 20%<br>10%<br>5%           | 4V<br>50V<br>50V          |
| C321<br>C322<br>C323         | 1-163-117-00<br>1-162-953-11<br>1-164-346-11 | CERAMIC CHIP 100PF<br>CERAMIC CHIP 100PF<br>CERAMIC CHIP 1MF                      | 5%<br>5%          | 50V<br>50V<br>16V        | C513                         | 1-135-162-21<br>1-164-232-11<br>1-135-162-21                 | TANTAL. CHIP 33MF<br>CERAMIC CHIP 0.01MF<br>TANTAL. CHIP 33MF    | 20%<br>10%<br>20%          | 4V<br>50V<br>4V           |
| C324<br>C326<br>C327         | 1-135-162-21<br>1-135-144-11<br>1-163-809-11 | TANTAL. CHIP 33MF<br>TANTAL. CHIP 22MF<br>CERAMIC CHIP 0.047MF                    | 20%<br>20%<br>10% | 4V<br>6.3V<br>25V        | C516                         | 1-164-156-11<br>1-164-156-11<br>1-162-932-11                 | CERAMIC CHIP 0.1MF<br>CERAMIC CHIP 0.1MF<br>CERAMIC CHIP 2PF     | 0.25PF                     | 25V<br>25V<br>50V         |

| Ref.No.                      | Part No.   | Description  |                         |                           | Ref.No.               | Part No.                                     | Description  |                            |                    |
|------------------------------|--|--|-------------------------|---------------------------|-----------------------|--|--|----------------------------|--------------------|
| C518<br>C519<br>C520<br>C521 | 1-164-227-11<br>1-162-957-11<br>1-135-130-11<br>1-164-227-11 |  | 10%<br>5%<br>20%<br>10% | 25V<br>50V<br>6.3V<br>25V | C811<br>C814<br>C815  | 1-135-130-11<br>1-164-346-11<br>1-164-156-11 | TANTAL. CHIP 4.7MF<br>CERAMIC CHIP 1MF<br>CERAMIC CHIP 0.1MF                 |                            | 6.3V<br>16V<br>25V |
| C522<br>C523<br>C524         | 1-135-144-11<br>1-162-949-11<br>1-135-144-11                 | TANTAL. CHIP 22MF<br>CERAMIC CHIP 47PF<br>TANTAL. CHIP 22MF        | 20%<br>5%<br>20%        | 6.3V<br>50V<br>6.3V       | C817<br>C818<br>C819  | 1-162-944-11<br>1-164-346-11<br>1-164-346-11 | CERAMIC CHIP 18PF CERAMIC CHIP 1MF CERAMIC CHIP 1MF                          |                            | 50V<br>16V<br>16V  |
| C525<br>C526<br>C527         |  | TANTAL. CHIP 4.7MF<br>CERAMIC CHIP 0.1MF<br>CERAMIC CHIP 0.001MF   | 20%                     | 6.3V<br>25V<br>50V        | C820<br>C821<br>C822  | 1-162-995-11<br>1-162-974-11<br>1-162-974-11 | CERAMIC CHIP 0.022MF CERAMIC CHIP 0.01MF CERAMIC CHIP 0.01MF                 |                            | 50V<br>50V<br>50V  |
| C528<br>C529<br>C530         | 1-163-809-11<br>1-164-346-11<br>1-163-023-00                 | CERAMIC CHIP 1MF   | 10%                     | 25V<br>16V<br>50V         | C823<br>C824<br>C825  | 1-162-974-11<br>1-162-974-11<br>1-164-346-11 | CERAMIC CHIP 0.01MF<br>CERAMIC CHIP 0.01MF<br>CERAMIC CHIP 1MF               |                            | 50V<br>50V<br>16V  |
| C531<br>C532<br>C533         | 1-126-206-11   | ELECT CHIP 100MF<br>CERAMIC CHIP 0.001MF                           | 20%<br>5%<br>10%        | 6.3V<br>50V<br>25V        | C826<br>C827<br>CF1   | 1-135-130-11<br>1-135-207-11<br>1-567-910-11 | TANTAL. CHIP 4.7MF<br>TANTAL. CHIP 68MF<br>FILTER, CERAMIC                   |                            | 6.3V<br>6.3V       |
| C534<br>C536<br>C537         | 1-164-005-11   | CERAMIC CHIP 0.47MF<br>CERAMIC CHIP 0.1MF<br>CERAMIC CHIP 0.0047MF | 10%                     | 25V<br>25V<br>50V         | CF2<br>CF003          | 1-567-910-11<br>1-577-065-11<br>1-566-527-11 | FILTER, CERAMIC<br>FILTER, CERAMIC<br>CONNECTOR, FPC (ZIF) 11F               |                            |                    |
| C538<br>C540                 | 1-164-005-11<br>1-162-953-11                                 | CERAMIC CHIP 0.47MF<br>CERAMIC CHIP 100PF                          | 5%                      | 25V<br>50V                | CN502<br>CN701        | 1-566-521-11<br>1-566-528-21<br>1-590-313-11 | CONNECTOR, FPC (ZIF) 5P<br>CONNECTOR, FPC (ZIF) 12F<br>SOCKET, CONNECTOR 16P |                            |                    |
| C541<br>C542<br>C543         | 1-163-809-11<br>1-163-141-00                                 | CERAMIC CHIP 0.001MF   | 10%<br>5%               | 25V<br>25V<br>50V         | CN802<br>CN803        | 1-580-312-11<br>1-566-533-11<br>1-568-207-11 | SOCKET, CONNECTOR (PLUG)<br>CONNECTOR, FPC (ZIF) 17P                         |                            |                    |
| C544<br>C546<br>C547         | 1-164-346-11<br>1-135-148-21<br>1-135-157-21                 | CERAMIC CHIP 1MF TANTAL. CHIP 1.5MF TANTAL. CHIP 10MF              | 20%<br>20%              | 16V<br>10V<br>6.3V        | CNJ401                | 1-568-758-11<br>1-568-907-21                 | JACK (PHONES/REMOTE)<br>JACK, EXTERNAL POWER (DO                             |                            |                    |
| C548<br>C549<br>C550         |  | CERAMIC CHIP 0.22MF CERAMIC CHIP 0.027MF CERAMIC CHIP 1MF          | 10%                     | 25V<br>25V<br>16V         | CT004<br>CT005        | 1-141-327-11<br>1-141-327-11<br>1-141-325-11 | CAP, VAR, TRIMMER (CHIP CAP, VAR, TRIMMER (CHIP CAP, VAR, TRIMMER (CHIP      | TYPE)                      |                    |
| C551<br>C552<br>C553         | 1-164-156-11   | CERAMIC CHIP 0.1MF CERAMIC CHIP 0.22MF CERAMIC CHIP 0.47MF         |                         | 25V<br>25V<br>25V         | D001<br>D002<br>D003  | 8-719-939-02<br>8-719-939-02<br>8-719-951-05 | DIODE SVC203CP<br>DIODE SVC203CP<br>DIODE KV1560                             |                            |                    |
| C554<br>C555                 | 1-164-346-11   | CERAMIC CHIP 1MF CERAMIC CHIP 0.001MF                              | 5%                      | 16V<br>50V                | D004<br>D005<br>D006  | 8-719-400-18<br>8-719-400-18<br>8-719-106-53 |  |                            |                    |
| C556<br>C557<br>C558         | 1-135-157-21<br>1-135-157-21<br>1-135-148-21                 | TANTAL. CHIP 10MF TANTAL. CHIP 10MF TANTAL. CHIP 1.5MF             |                         | 6.3V<br>6.3V              | D007<br>D011<br>D012  | 8-719-400-18<br>8-719-421-36<br>8-719-421-21 | DIODE MA152WK<br>DIODE MA8036-L<br>DIODE MA8120-L                            |                            |                    |
| C559<br>C560<br>C561         | 1-164-156-11   | CERAMIC CHIP 0.0022MF CERAMIC CHIP 0.1MF CERAMIC CHIP 0.1MF        | 10%                     | 50V<br>25V<br>25V         | D013<br>D014<br>D015  | 8-719-421-21<br>8-719-400-18<br>8-719-400-18 | DIODE MA8120-L<br>DIODE MA152WK<br>DIODE MA152WK                             |                            |                    |
| C562<br>C601<br>C604         | 1-164-346-11<br>1-164-346-11<br>1-162-953-11                 | CERAMIC CHIP 1MF CERAMIC CHIP 1MF CERAMIC CHIP 100PF               | 5%                      | 16V<br>16V<br>50V         | D01 7<br>D202<br>D203 | 8-719-421-36<br>8-719-421-21<br>8-719-421-21 |  |                            | 7                  |
| C605<br>C607                 | 1-162-953-11<br>1-162-953-11<br>1-162-966-11                 | CERAMIC CHIP 100PF CERAMIC CHIP 100PF CERAMIC CHIP 0.0022MF        | 5%<br>5%                | 50V<br>50V                | D204<br>D205<br>D302  | 8-719-421-21<br>8-719-421-21<br>8-719-104-34 | DIODE MA8120-L<br>DIODE MA8120-L<br>DIODE 152836                             | ik<br>Dina ins<br>Maria in |                    |
| C716<br>C801                 | 1-162-909-11<br>1-162-951-11                                 | CERAMIC CHIP 4PF<br>CERAMIC CHIP 68PF                              | 0.25PF<br>5%            | 50V<br>50V                | D303<br>D401<br>D402  | 8-719-404-46<br>8-719-975-33<br>8-719-975-40 | DIODE MAILO<br>DIODE RBILOC<br>DIODE RB411D                                  |                            |                    |
| C803<br>C804                 | 1-162-951-11<br>1-164-346-11<br>1-164-346-11                 |  | 5%                      | 50V<br>16V<br>16V         | D403<br>D404<br>D405  | 8-719-975-43                                 |  |                            |                    |
| C805<br>C806<br>C807         | 1-164-156-11   | CERAMIC CHIP 1MF<br>CERAMIC CHIP 0.1MF<br>CERAMIC CHIP 18PF        | 5%                      | 16V<br>25V<br>50V         | D407<br>D408<br>D409  | 8-719-400-18<br>8-719-975-33                 | DIODE MA152WK  |                            |                    |
| C808<br>C809<br>C810         | 1-163-141-00<br>1-164-005-11<br>1-164-156-11                 | CERAMIC CHIP 0.001MF<br>CERAMIC CHIP 0.47MF<br>CERAMIC CHIP 0.1MF  | 5%                      | 50V<br>25V<br>25V         | E0403                 | 0 713-302-08                                 | DIODE SEL2913K-D   |                            |                    |

| R | ef.No.               | Part No.                                     | Description  | Ref.No.              | Part No.                                     | Description   |                         |
|---|----------------------|--|--|----------------------|--|---|-------------------------|
|   | Q013<br>Q014<br>Q015 | 8-729-903-10<br>8-729-901-05<br>8-729-807-87 |  | Q502<br>Q503<br>Q504 | 8-729-904-87<br>8-729-920-74<br>8-729-920-74 | TRANSISTOR 2SC2412K-QR  |                         |
|   | Q016<br>Q017<br>Q018 | 8-729-901-00<br>8-729-271-23<br>8-729-159-64 |  | Q505<br>Q506<br>Q510 | 8-729-901-00<br>8-729-924-79<br>8-729-420-20 | TRANSISTOR DTC124EK TRANSISTOR FMG8 TRANSISTOR XN4312             |                         |
|   | Q019<br>Q020<br>Q101 | 8-729-141-48<br>8-729-140-75<br>8-729-921-72 | TRANSISTOR 2SB624-BV345 TRANSISTOR 2SD999-CLCK TRANSISTOR 2SD1781K-R | Q801<br>Q802<br>Q803 | 8-729-902-96<br>8-729-902-96<br>8-729-402-16 | TRANSISTOR FMS1<br>TRANSISTOR FMS1<br>TRANSISTOR XN4608           |                         |
|   | Q102<br>Q103<br>Q201 | 8-729-921-72<br>8-729-921-72<br>8-729-921-72 | TRANSISTOR 2SD1781K-R  | Q804<br>Q805<br>Q806 | 8-729-420-20<br>8-729-901-05<br>8-729-901-00 | TRANSISTOR XN4312<br>TRANSISTOR DTA124EK<br>TRANSISTOR DTC124EK   |                         |
|   | Q202<br>Q203<br>Q301 | 8-729-921-72<br>8-729-921-72<br>8-729-420-27 |  | Q807<br>Q808<br>Q809 | 8-729-921-72<br>8-729-901-05<br>8-729-420-20 | TRANSISTOR 2SD1781K-R<br>TRANSISTOR DTA124EK<br>TRANSISTOR XN4312 |                         |
|   | Q302<br>Q304<br>Q401 | 8-729-806-75<br>8-729-903-10<br>8-729-923-36 | TRANSISTOR 2SB1123 TRANSISTOR FMW1 TRANSISTOR 2SD1963-Q.R            | Q811<br>Q813<br>Q814 | 8-729-901-00<br>8-729-900-51<br>8-729-921-72 | TRANSISTOR DTC124EK TRANSISTOR DTA114TK TRANSISTOR 2SD1781K-R     |                         |
|   | Q402<br>Q403<br>Q404 | 8-729-926-71<br>8-729-901-00<br>8-729-904-87 | TRANSISTOR 2SB1308-R<br>TRANSISTOR DTC124EK<br>TRANSISTOR 2SB1197K-R | Q815<br>Q816<br>Q817 | 8-729-901-05<br>8-729-901-05<br>8-729-901-05 | TRANSISTOR DTA124EK TRANSISTOR DTA124EK TRANSISTOR DTA124EK       |                         |
|   | Q405<br>Q406<br>Q407 | 8-729-921-72<br>8-729-901-00<br>8-729-926-71 |  | R001<br>R002<br>R003 | 1-216-842-11<br>1-216-818-11<br>1-216-853-11 | METAL GLAZE 56K 5%<br>METAL GLAZE 560 5%<br>METAL GLAZE 470K 5%   | 1/16W<br>1/16W<br>1/16W |
|   | Q408<br>Q409<br>Q410 | 8-729-421-23<br>8-729-901-00<br>8-729-901-05 | TRANSISTOR XN1216<br>TRANSISTOR DTC124EK<br>TRANSISTOR DTA124EK      | R004<br>R005<br>R006 | 1-216-853-11<br>1-216-834-11<br>1-216-262-00 | METAL GLAZE 470K 5%<br>METAL GLAZE 12K 5%<br>METAL GLAZE 470K 5%  | 1/16W<br>1/16W<br>1/8W  |
|   | Q411<br>Q412<br>Q413 | 8-729-116-06<br>8-729-921-84<br>8-729-901-00 | TRANSISTOR 25K160-K6 TRANSISTOR 25B1182F5-Q TRANSISTOR DTC124EK      | R007<br>R008<br>R009 | 1-216-853-11<br>1-216-833-11<br>1-216-818-11 | METAL GLAZE 470K 5%<br>METAL GLAZE 10K 5%<br>METAL GLAZE 560 5%   | 1/16W<br>1/16W<br>1/16W |
|   | Q414<br>Q415<br>Q416 | 8-729-207-55<br>8-729-904-87<br>8-729-920-71 | TRANSISTOR RN1401<br>TRANSISTOR 2SB1197K-R<br>TRANSISTOR 2SA1037K-QR | R010<br>R011<br>R012 | 1-216-821-11<br>1-216-813-11<br>1-216-821-11 | METAL GLAZE 1K 5%<br>METAL GLAZE 220 5%<br>METAL GLAZE 1K 5%      | 1/16W<br>1/16W<br>1/16W |
|   | Q417<br>Q418<br>Q419 | 8-729-420-20<br>8-729-403-42<br>8-729-920-71 | TRANSISTOR XN4312<br>TRANSISTOR XN1401<br>TRANSISTOR 2SA1037K-QR     | R013<br>R014<br>R015 | 1-216-067-00<br>1-216-019-00<br>1-216-850-11 |   | 1/10W<br>1/10W<br>1/16W |
|   | Q420<br>Q421<br>Q422 | 8-729-421-23<br>8-729-921-72<br>8-729-901-00 | TRANSISTOR XN1216 TRANSISTOR 2SD1781K-R TRANSISTOR DTC124EK          | R016<br>R017<br>R018 | 1-216-809-11<br>1-216-043-00<br>1-216-037-00 |   | 1/16W<br>1/10W<br>1/10W |
|   | Q423<br>Q425<br>Q429 | 8-729-920-71<br>8-729-923-36<br>8-729-901-00 | TRANSISTOR 2SA1037K-QR TRANSISTOR 2SD1963-Q.R TRANSISTOR DTC124EK    | R019<br>R020<br>R021 | 1-216-113-00<br>1-216-025-00<br>1-216-844-11 | METAL GLAZE 470K 5% METAL GLAZE 100 5% METAL GLAZE 82K 5%         | 1/10W<br>1/10W<br>1/16W |
|   | Q430<br>Q431<br>Q432 | 8-729-904-87<br>8-729-807-33<br>8-729-921-72 | TRANSISTOR 2SB1197K-R<br>TRANSISTOR 2SB1123<br>TRANSISTOR 2SD1781K-R | R022<br>R023<br>R024 | 1-216-837-11<br>1-216-814-11<br>1-216-845-11 | METAL GLAZE 22K 5%<br>METAL GLAZE 270 5%<br>METAL GLAZE 100K 5%   | 1/16W<br>1/16W<br>1/16W |
|   | Q433<br>Q434<br>Q435 | 8-729-117-32<br>8-729-400-56<br>8-729-904-87 | TRANSISTOR 2SC4177 TRANSISTOR 2SD1328-T TRANSISTOR 2SB1197K-R        | R025<br>R026<br>R027 | 1-216-841-11<br>1-216-809-11<br>1-216-833-11 | METAL GLAZE 47K 5%<br>METAL GLAZE 100 5%<br>METAL GLAZE 10K 5%    | 1/16W<br>1/16W<br>1/16W |
|   | Q436<br>Q437<br>Q438 | 8-729-420-24<br>8-729-901-03<br>8-729-901-00 | TRANSISTOR 2SB1218A-S<br>TRANSISTOR DTC144EK<br>TRANSISTOR DTC124EK  | R028<br>R029<br>R030 | 1-216-839-11<br>1-216-821-11<br>1-216-829-11 | METAL GLAZE 33K 5% METAL GLAZE 1K 5% METAL GLAZE 4.7K 5%          | 1/16W<br>1/16W<br>1/16W |
|   | Q439<br>Q440<br>Q441 | 8-729-926-71<br>8-729-901-00<br>8-729-921-72 | TRANSISTOR 2SB1308-R<br>TRANSISTOR DTC124EK<br>TRANSISTOR 2SD1781K-R | R031<br>R032<br>R033 | 1-216-829-11<br>1-216-829-11<br>1-216-826-11 | METAL GLAZE 4.7K 5% METAL GLAZE 4.7K 5% METAL GLAZE 2.7K 5%       | 1/16W<br>1/16W<br>1/16W |
|   | Q442<br>Q443<br>Q501 | 8-729-162-44<br>8-729-900-98<br>8-729-402-90 | TRANSISTOR 2SB624-BV4 TRANSISTOR DTC143TK TRANSISTOR XN4609          | R034<br>R035<br>R036 | 1-216-834-11<br>1-216-812-11<br>1-216-820-11 | METAL GLAZE 12K 5%<br>METAL GLAZE 180 5%<br>METAL GLAZE 820 5%    | 1/16W<br>1/16W<br>1/16W |
|   |                      |  |  |                      |  |   |                         |

| Ref.No. | Part No.     | Description |      |       |       | Ref.No. | Part No.     | Description |       |       |       |
|---------|--------------|-------------|------|-------|-------|---------|--------------|-------------|-------|-------|-------|
| R037    | 1-216-822-11 | METAL GLAZE | 1.2K | 5%    | 1/16W | R204    | 1-216-833-11 | METAL GLAZE | 10K   | 5%    | 1/16W |
| R038    | 1-216-821-11 | METAL GLAZE | 1K   | 5%    | 1/16W | R205    | 1-216-649-11 | METAL CHIP  | 820   | 0.50% | 1/10W |
| R039    | 1-216-827-11 | METAL GLAZE | 3.3K | 5%    | 1/16W | R206    | 1-216-823-11 | METAL GLAZE | 1.5K  | 5%    | 1/16W |
| R040    | 1-216-331-11 | METAL GLAZE | 9.1K | 1 %   | 1/10W | R207    | 1-216-813-11 | METAL GLAZE | 220   | 5%    | 1/16W |
| R041    | 1-216-839-11 | METAL GLAZE | 33K  | 5 %   | 1/16W | R208    | 1-216-845-11 | METAL GLAZE | 100K  | 5%    | 1/16W |
| R042    | 1-216-821-11 | METAL GLAZE | 1K   | 5 %   | 1/16W | R209    | 1-216-833-11 | METAL GLAZE | 10K   | 5%    | 1/16W |
| RO43    | 1-216-833-11 | METAL GLAZE | 10K  | 5%    | 1/16W | R210    | 1-216-833-11 | METAL GLAZE | 10K   | 5%    | 1/16W |
| RO44    | 1-216-809-11 | METAL GLAZE | 100  | 5%    | 1/16W | R211    | 1-216-823-11 | METAL GLAZE | 1.5K  | 5%    | 1/16W |
| RO45    | 1-216-826-11 | METAL GLAZE | 2.7K | 5%    | 1/16W | R216    | 1-216-831-11 | METAL GLAZE | 6.8K  | 5%    | 1/16W |
| R046    | 1-216-821-11 | METAL GLAZE | 1K   | 5%    | 1/16W | R217    | 1-216-797-11 | METAL GLAZE | 10    | 5%    | 1/16W |
| R047    | 1-216-825-11 | METAL GLAZE | 2.2K | 5%    | 1/16W | R301    | 1-216-825-11 | METAL GLAZE | 2.2K  | 5%    | 1/16W |
| R048    | 1-216-825-11 | METAL GLAZE | 2.2K | 5%    | 1/16W | R302    | 1-216-821-11 | METAL GLAZE | 1K    | 5%    | 1/16W |
| R049    | 1-216-849-11 | METAL GLAZE | 220K | 5%    | 1/16W | R303    | 1-216-829-11 | METAL GLAZE | 4.7K  | 5%    | 1/16W |
| R050    | 1-216-845-11 | METAL GLAZE | 100K | 5%    | 1/16W | R304    | 1-216-822-11 | METAL GLAZE | 1.2K  | 5%    | 1/16W |
| R051    | 1-216-827-11 | METAL GLAZE | 3.3K | 5%    | 1/16W | R305    | 1-216-857-11 | METAL GLAZE | 1M    | 5%    | 1/16W |
| R052    | 1-216-793-11 | METAL GLAZE | 4.7  | 5%    | 1/16W | R306    | 1-216-835-11 | METAL GLAZE | 15K   | 5%    | 1/16W |
| R053    | 1-216-821-11 | METAL GLAZE | 1K   | 5%    | 1/16W | R307    | 1-216-825-11 | METAL GLAZE | 2.2K  | 5%    | 1/16W |
| R054    | 1-216-815-11 | METAL GLAZE | 330  | 5%    | 1/16W | R308    | 1-216-847-11 | METAL GLAZE | 150K  | 5%    | 1/16W |
| R055    | 1-216-820-11 | METAL GLAZE | 820  | 5%    | 1/16W | R309    | 1-216-674-11 | METAL CHIP  | 9.1K  | 0.50% | 1/10W |
| R056    | 1-216-820-11 | METAL GLAZE | 820  | 5%    | 1/16W | R310    | 1-216-825-11 | METAL GLAZE | 2.2K  | 5%    | 1/16W |
| R057    | 1-216-793-11 | METAL GLAZE | 4.7  | 5%    | 1/16W | R312    | 1-216-797-11 | METAL GLAZE | 10    | 5%    | 1/16W |
| R058    | 1-216-837-11 | METAL GLAZE | 22K  | 5%    | 1/16W | R313    | 1-216-857-11 | METAL GLAZE | 1 M   | 5%    | 1/16W |
| R059    | 1-216-821-11 | METAL GLAZE | 1K   | 5%    | 1/16W | R401    | 1-216-824-11 | METAL GLAZE | 1 .8K | 5%    | 1/16W |
| R061    | 1-216-827-11 | METAL GLAZE | 3.3K | 5%    | 1/16W | R402    | 1-216-837-11 | METAL GLAZE | 22K   | 5%    | 1/16W |
| R062    | 1-216-230-00 | METAL GLAZE | 22K  | 5%    | 1/8W  | R403    | 1-216-815-11 | METAL GLAZE | 330   | 5%    | 1/16W |
| R063    | 1-216-826-11 | METAL GLAZE | 2.7K | 5%    | 1/16W | R404    | 1-216-824-11 | METAL GLAZE | 1.8K  | 5%    | 1/16W |
| R064    | 1-216-821-11 | METAL GLAZE | 1K   | 5%    | 1/16W | R405    | 1-216-835-11 | METAL GLAZE | 15K   | 5%    | 1/16W |
| R066    | 1-216-821-11 | METAL GLAZE | 1K   | 5%    | 1/16W | R406    | 1-216-823-11 | METAL GLAZE | 1.5K  | 5%    | 1/16W |
| R067    | 1-216-831-11 | METAL GLAZE | 6.8K | 5%    | 1/16W | R407    | 1-216-833-11 | METAL GLAZE | 10K   | 5%    | 1/16W |
| R068    | 1-216-833-11 | METAL GLAZE | 10K  | 5%    | 1/16W | R408    | 1-216-817-11 | METAL GLAZE | 470   | 5%    | 1/16W |
| R069    | 1-216-845-11 | METAL GLAZE | 100K | 5%    | 1/16W | R409    | 1-216-815-11 | METAL GLAZE | 330   | 5%    | 1/16W |
| R070    | 1-216-821-11 | METAL GLAZE | 1K   | 5%    | 1/16W | R410    | 1-216-837-11 | METAL GLAZE | 22K   | 5%    | 1/16W |
| R071    | 1-216-049-00 | METAL GLAZE | 1K   | 5%    | 1/10W | R411    | 1-216-817-11 | METAL GLAZE | 470   | 5%    | 1/16W |
| R072    | 1-216-837-11 | METAL GLAZE | 22K  | 5%    | 1/16W | R412    | 1-216-833-11 | METAL GLAZE | 10K   | 5%    | 1/16W |
| R087    | 1-216-837-11 | METAL GLAZE | 22K  | 5%    | 1/16W | R413    | 1-216-845-11 | METAL GLAZE | 100K  | 5%    | 1/16W |
| R088    | 1-216-831-11 | METAL GLAZE | 6.8K | 5%    | 1/16W | R414    | 1-216-827-11 | METAL GLAZE | 3.3K  | 5%    | 1/16W |
| R089    | 1-216-827-11 | METAL GLAZE | 3.3K | 5%    | 1/16W | R415    | 1-216-821-11 | METAL GLAZE | 1K    | 5%    | 1/16W |
| R090    | 1-216-831-11 | METAL GLAZE | 6.8K | 5%    | 1/16W | R416    | 1-216-817-11 | METAL GLAZE | 470   | 5%    | 1/16W |
| R091    | 1-216-827-11 | METAL GLAZE | 3.3K | 5%    | 1/16W | R417    | 1-216-662-11 | METAL CHIP  | 3K    | 0.50% | 1/10W |
| R092    | 1-216-838-11 | METAL GLAZE | 27K  | 5%    | 1/16W | R418    | 1-216-663-11 | METAL CHIP  | 3.3K  | 0.50% | 1/10W |
| R094    | 1-216-821-11 | METAL GLAZE | 1K   | 5%    | 1/16W | R419    | 1-216-663-11 | METAL CHIP  | 3.3K  |       | 1/10W |
| R095    | 1-216-821-11 | METAL GLAZE | 1K   | 5%    | 1/16W | R420    | 1-216-697-11 | METAL CHIP  | 82K   |       | 1/10W |
| R096    | 1-216-821-11 | METAL GLAZE | 1K   | 5%    | 1/16W | R421    | 1-218-292-11 | METAL GLAZE | 20K   | 5%    | 1/16W |
| R102    | 1-216-845-11 | METAL GLAZE | 100K | 5%    | 1/16W | R422    | 1-216-833-11 | METAL GLAZE | 10K   | 5%    | 1/16W |
| R103    | 1-216-823-11 | METAL GLAZE | 1.5K | 5%    | 1/16W | R423    | 1-217-806-11 | METAL GLAZE | 1     | 5%    | 1/8W  |
| R104    | 1-216-833-11 | METAL GLAZE | 10K  | 5%    | 1/16W | R424    | 1-217-806-11 | METAL GLAZE | 1     | 5%    | 1/8W  |
| R105    | 1-216-649-11 | METAL CHIP  | 820  | 0,50% | 1/10W | R425    | 1-216-825-11 | METAL GLAZE | 2.2K  | 5%    | 1/16W |
| R106    | 1-216-823-11 | METAL GLAZE | 1.5K | 5%    | 1/16W | R426    | 1-216-837-11 | METAL GLAZE | 22K   | 5%    | 1/16W |
| R107    | 1-216-813-11 | METAL GLAZE | 220  | 5%    | 1/16W | R427    | 1-216-675-11 | METAL CHIP  | 10K   | 0.50% | 1/10W |
| R108    | 1-216-845-11 | METAL GLAZE | 100K | 5%    | 1/16W | R428    | 1-216-805-11 | METAL GLAZE | 47    | 5%    | 1/16W |
| R109    | 1-216-833-11 | METAL GLAZE | 10K  | 5%    | 1/16W | R429    | 1-216-809-11 | METAL GLAZE | 100   | 5%    | 1/16W |
| R110    | 1-216-833-11 | METAL GLAZE | 10K  | 5%    | 1/16W | R430    | 1-216-837-11 | METAL GLAZE | 22K   | 5%    | 1/16W |
| R111    | 1-216-823-11 | METAL GLAZE | 1.5K | 5%    | 1/16W | R431    | 1-216-821-11 | METAL GLAZE | 1K    | 5%    | 1/16W |
| R116    | 1-216-831-11 | METAL GLAZE | 6.8K | 5%    | 1/16W | R432    | 1-216-857-11 | METAL GLAZE | 1M    | 5%    | 1/16W |
| R117    | 1-216-797-11 | METAL GLAZE | 10   | 5%    | 1/16W | R433    | 1-216-821-11 | METAL GLAZE | 1K    | 5%    | 1/16W |
| R202    | 1-216-845-11 | METAL GLAZE | 100K | 5%    | 1/16W | R434    | 1-216-833-11 | METAL GLAZE | 10K   | 5%    | 1/16W |
| R203    | 1-216-823-11 | METAL GLAZE | 1.5K | 5%    | 1/16W | R435    | 1-216-092-00 | METAL GLAZE | 62K   | 5%    | 1/10W |
|         |              |             |      |       |       |         |              |             |       |       |       |

| Ref.No.              | Part No.                                     | Description                               |                       |                   |                         |    | Ref.No.              | Part No.                                     | Description                               |                     |                |                         |
|----------------------|--|---|-----------------------|-------------------|-------------------------|----|----------------------|--|---|---------------------|----------------|-------------------------|
| R436                 | 1-216-830-11                                 | METAL GLAZE                               | 5.6K                  | 5%                | 1/16W                   |    | R531                 | 1-216-857-11                                 | METAL GLAZE                               | 1 M                 | 5%             | 1/16W                   |
| R438                 | 1-216-869-11                                 | METAL GLAZE                               | 130K                  | 1%                | 1/10W                   |    | R532                 | 1-216-683-11                                 | METAL CHIP                                | 22K                 | 0.50%          | 1/10W                   |
| R440                 | 1-216-034-00                                 | METAL GLAZE                               | 240                   | 5%                | 1/10W                   |    | R533                 | 1-216-833-11                                 | METAL GLAZE                               | 1 OK                | 5%             | 1/16W                   |
| R443                 | 1-216-851-11                                 | METAL GLAZE                               | 330K                  | 5%                | 1/16W                   |    | R535                 | 1-216-863-11                                 | METAL GLAZE                               | 3.3M                | 5%             | 1/16W                   |
| R444                 | 1-216-817-11                                 | METAL GLAZE                               | 470                   | 5%                | 1/16W                   |    | R536                 | 1-216-844-11                                 | METAL GLAZE                               | 82K                 | 5%             | 1/16W                   |
| R445                 | 1-216-845-11                                 | METAL GLAZE                               | 100K                  | 5%                | 1/16W                   |    | R538                 | 1-216-841-11                                 | METAL GLAZE                               | 47K                 | 5%             | 1/16W                   |
| R446                 | 1-216-837-11                                 | METAL GLAZE                               | 22K                   | 5%                | 1/16W                   |    | R539                 | 1-216-857-11                                 | METAL GLAZE                               | 1 M                 | 5%             | 1/16W                   |
| R448                 | 1-216-817-11                                 | METAL GLAZE                               | 470                   | 5%                | 1/16W                   |    | R540                 | 1-216-833-11                                 | METAL GLAZE                               | 1 OK                | 5%             | 1/16W                   |
| R449                 | 1-216-817-11                                 | METAL GLAZE                               | 470                   | 5%                | 1/16W                   |    | R541                 | 1-216-820-11                                 | METAL GLAZE                               | 820                 | 5%             | 1/16W                   |
| R450                 | 1-216-837-11                                 | METAL GLAZE                               | 22K                   | 5%                | 1/16W                   | ٠. | R542                 | 1-216-847-11                                 | METAL GLAZE                               | 150K                | 5%             | 1/16W                   |
| R451                 | 1-216-845-11                                 | METAL GLAZE                               | 100K                  | 5%                | 1/16W                   |    | R543                 | 1-216-847-11                                 | METAL GLAZE                               | 150K                | 5%             | 1/16W                   |
| R452                 | 1-216-817-11                                 | METAL GLAZE                               | 470                   | 5%                | 1/16W                   |    | R544                 | 1-216-825-11                                 | METAL GLAZE                               | 2.2K                | 5%             | 1/16W                   |
| R453                 | 1-216-853-11                                 | METAL GLAZE                               | 470K                  | 5%                | 1/16W                   |    | R545                 | 1-216-837-11                                 | METAL GLAZE                               | 22K                 | 5%             | 1/16W                   |
| R454                 | 1-216-814-11                                 | METAL GLAZE                               | 270                   | 5%                | 1/16W                   |    | R546                 | 1-216-840-11                                 | METAL GLAZE                               | 39K                 | 5%             | 1/16W                   |
| R455                 | 1-216-800-11                                 | METAL GLAZE                               | 18                    | 5%                | 1/16W                   |    | R547                 | 1-216-833-11                                 | METAL GLAZE                               | 10K                 | 5%             | 1/16W                   |
| R456                 | 1-216-836-11                                 | METAL GLAZE                               | 18K                   | 5%                | 1/16W                   |    | R548                 | 1-216-829-11                                 | METAL GLAZE                               | 4.7K                | 5%             | 1/16W                   |
| R457                 | 1-216-827-11                                 | METAL GLAZE                               | 3.3K                  | 5%                | 1/16W                   |    | R549                 | 1-216-857-11                                 | METAL GLAZE                               | 1M                  | 5%             | 1/16W                   |
| R459                 | 1-216-817-11                                 | METAL GLAZE                               | 470                   | 5%                | 1/16W                   |    | R550                 | 1-216-825-11                                 | METAL GLAZE                               | 2.2K                | 5%             | 1/16W                   |
| R460                 | 1-216-809-11                                 | METAL GLAZE                               | 100                   | 5%                | 1/16W                   |    | R551                 | 1-216-825-11                                 | METAL GLAZE                               | 2.2K                | 5%             | 1/16W                   |
| R461                 | 1-216-857-11                                 | METAL GLAZE                               | 1M                    | 5%                | 1/16W                   |    | R552                 | 1-216-827-11                                 | METAL GLAZE                               | 3.3K                | 5%             | 1/16W                   |
| R465                 | 1-216-831-11                                 | METAL GLAZE                               | 6.8K                  | 5%                | 1/16W                   |    | R553                 | 1-216-833-11                                 | METAL GLAZE                               | 10K                 | 5%             | 1/16W                   |
| R466                 | 1-216-845-11                                 | METAL GLAZE                               | 100K                  | 5%                | 1/16W                   |    | R554                 | 1-216-847-11                                 | METAL GLAZE                               | 150K                | 5%             | 1/16W                   |
| R467                 | 1-216-837-11                                 | METAL GLAZE                               | 22K                   | 5%                | 1/16W                   |    | R556                 | 1-216-825-11                                 | METAL GLAZE                               | 2.2K                | 5%             | 1/16W                   |
| R468                 | 1-216-815-11                                 | METAL GLAZE                               | 330                   | 5%                | 1/16W                   |    | R557                 | 1-216-821-11                                 | METAL GLAZE                               | 1K                  | 5%             | 1/16W                   |
| R469                 | 1-216-115-00                                 | METAL GLAZE                               | 560K                  | 5%                | 1/10W                   |    | R559                 | 1-216-843-11                                 | METAL GLAZE                               | 68K                 | 5%             | 1/16W                   |
| R471                 | 1-216-821-11                                 | METAL GLAZE                               | 1 K                   | 5%                | 1/16W                   |    | R560                 | 1-216-841-11                                 | METAL GLAZE                               | 47K                 | 5%             | 1/16W                   |
| R472                 | 1-216-833-11                                 | METAL GLAZE                               | 1 OK                  | 5%                | 1/16W                   |    | R561                 | 1-216-841-11                                 | METAL GLAZE                               | 47K                 | 5%             | 1/16W                   |
| R473                 | 1-216-830-11                                 | METAL GLAZE                               | 5.6K                  | 5%                | 1/16W                   |    | R562                 | 1-216-845-11                                 | METAL GLAZE                               | 100K                | 5%             | 1/16W                   |
| R474                 | 1-216-825-11                                 | METAL GLAZE                               | 2.2K                  | 5%                | 1/16W                   |    | R563                 | 1-216-846-11                                 | METAL GLAZE                               | 120K                | 5%             | 1/16W                   |
| R480                 | 1-216-814-11                                 | METAL GLAZE                               | 270                   | 5%                | 1/16W                   |    | R590                 | 1-216-833-11                                 | METAL GLAZE                               | 10K                 | 5%             | 1/16W                   |
| R502                 | 1-216-833-11                                 | METAL GLAZE                               | 10K                   | 5%                | 1/16W                   |    | R601                 | 1-216-833-11                                 | METAL GLAZE                               | 10K                 | 5%             | 1/16W                   |
| R503                 | 1-216-829-11                                 | METAL GLAZE                               | 4.7K                  | 5%                | 1/16W                   |    | R602                 | 1-216-845-11                                 | METAL GLAZE                               | 100K                | 5%             | 1/16W                   |
| R505                 | 1-216-833-11                                 | METAL GLAZE                               | 10K                   | 5%                | 1/16W                   |    | R801                 | 1-216-830-11                                 | METAL GLAZE                               | 5.6K                | 5%             | 1/16W                   |
| R506                 | 1-216-837-11                                 | METAL GLAZE                               | 22K                   | 5%                | 1/16W                   |    | R802                 | 1-216-837-11                                 | METAL GLAZE                               | 22K                 | 5%             | 1/16W                   |
| R507                 | 1-216-832-11                                 | METAL GLAZE                               | 8.2K                  | 5%                | 1/16W                   |    | R803                 | 1-216-837-11                                 | METAL GLAZE                               | 22K                 | 5%             | 1/16W                   |
| R508                 | 1-216-831-11                                 | METAL GLAZE                               | 6.8K                  | 5%                | 1/16W                   |    | R804                 | 1-216-837-11                                 | METAL GLAZE                               | 22K                 | 5%             | 1/16W                   |
| R509                 | 1-216-833-11                                 | METAL GLAZE                               | 10K                   | 5%                | 1/16W                   |    | R805                 | 1-216-845-11                                 | METAL GLAZE                               | 100K                | 5%             | 1/16W                   |
| R510                 | 1-216-797-11                                 | METAL GLAZE                               | 10                    | 5%                | 1/16W                   |    | R806                 | 1-216-833-11                                 | METAL GLAZE                               | 10K                 | 5%             | 1/16W                   |
| R511                 | 1-216-845-11                                 | METAL GLAZE                               | 100K                  | 5%                | 1/16W                   |    | R807                 | 1-216-845-11                                 | METAL GLAZE                               | 100K                | 5%             | 1/16W                   |
| R512                 | 1-216-833-11                                 | METAL GLAZE                               | 1 OK                  | 5%                | 1/16W                   |    | R808                 | 1-216-833-11                                 | METAL GLAZE                               | 10K                 | 5%             | 1/16W                   |
| R513                 | 1-216-859-11                                 | METAL GLAZE                               | 1 .5M                 | 5%                | 1/16W                   |    | R809                 | 1-216-845-11                                 | METAL GLAZE                               | 100K                | 5%             | 1/16W                   |
| R514                 | 1-216-851-11                                 | METAL GLAZE                               | 330K                  | 5%                | 1/16W                   |    | R810                 | 1-216-833-11                                 | METAL GLAZE                               | 10K                 | 5%             | 1/16W                   |
| R515                 | 1-216-825-11                                 | METAL GLAZE                               | 2.2K                  | 5%                | 1/16W                   |    | R811                 | 1-216-845-11                                 | METAL GLAZE                               | 100K                | 5%             | 1/16W                   |
| R516                 | 1-216-835-11                                 | METAL GLAZE                               | 15K                   | 5%                | 1/16W                   |    | R812                 | 1-216-833-11                                 | METAL GLAZE                               | 10K                 | 5%             | 1/16W                   |
| R517                 | 1-216-845-11                                 | METAL GLAZE                               | 100K                  | 5%                | 1/16W                   |    | R813                 | 1-216-833-11                                 | METAL GLAZE                               | 10K                 | 5%             | 1/16W                   |
| R519                 | 1-216-844-11                                 | METAL GLAZE                               | 82K                   | 5%                | 1/16W                   |    | R814                 | 1-216-668-11                                 | METAL CHIP                                | 5.1K                | 0.50%          | 1/10W                   |
| R520                 | 1-216-849-11                                 | METAL GLAZE                               | 220K                  | 5%                | 1/16W                   |    | R815                 | 1-216-845-11                                 | METAL GLAZE                               | 100K                | 5%             | 1/16W                   |
| R521                 | 1-216-837-11                                 | METAL GLAZE                               | 22K                   | 5%                | 1/16W                   |    | R816                 | 1-216-816-11                                 | METAL GLAZE                               | 390                 | 5%             | 1/16W                   |
| R522<br>R523<br>R524 | 1-216-845-11<br>1-216-829-11<br>1-216-115-00 | METAL GLAZE<br>METAL GLAZE<br>METAL GLAZE | 100K<br>4.7K<br>560K  | 5%<br>5%<br>5%    | 1/16W<br>1/16W<br>1/10W |    | R817<br>R818<br>R819 | 1-216-698-11<br>1-216-661-11<br>1-216-661-11 | METAL CHIP<br>METAL CHIP<br>METAL CHIP    | 91K<br>2.7K<br>2.7K | 0.50%          | 1/10W<br>1/10W<br>1/10W |
| R525<br>R526<br>R527 | 1-216-833-11<br>1-216-829-11<br>1-216-683-11 | METAL GLAZE<br>METAL GLAZE<br>METAL CHIP  | 1 0K<br>4 . 7K<br>22K | 5%<br>5%<br>0.50% | 1/16W<br>1/16W<br>1/10W |    | R820<br>R821<br>R822 | 1-216-809-11<br>1-216-689-11<br>1-216-678-11 | METAL GLAZE<br>METAL CHIP<br>METAL CHIP   | 100<br>39K<br>13K   |                | 1/16W<br>1/10W<br>1/10W |
| R528<br>R529<br>R530 | 1-216-848-11<br>1-216-062-00<br>1-216-826-11 | METAL GLAZE<br>METAL GLAZE<br>METAL GLAZE | 180K<br>3.6K<br>2.7K  |                   | 1/16W<br>1/10W<br>1/16W |    | R823<br>R824<br>R825 | 1-216-857-11<br>1-216-851-11<br>1-216-857-11 | METAL GLAZE<br>METAL GLAZE<br>METAL GLAZE | 1M<br>330K<br>1M    | 5%<br>5%<br>5% | 1/16W<br>1/16W<br>1/16W |

| Ref.No.                 | Part No.                                     | Description                                     |                      |                 |                         | Ref.No.                      | Pa                           |
|-------------------------|--|---|----------------------|-----------------|-------------------------|------------------------------|------------------------------|
| R827<br>R828<br>R829    | 1-216-833-11<br>1-216-845-11<br>1-216-859-11 | METAL GLAZE<br>METAL GLAZE<br>METAL GLAZE       | 10K<br>100K<br>1.5M  | 5%<br>5%<br>5%  | 1/16W<br>1/16W<br>1/16W | S814<br>S815<br>S816         | 1 -!<br>1 -!<br>1 -!         |
| R830<br>R831<br>R834    | 1-216-858-11<br>1-216-845-11<br>1-216-833-11 | METAL GLAZE<br>METAL GLAZE<br>METAL GLAZE       | 1.2M<br>100K<br>10K  | 5%<br>5%<br>5%  | 1/16W<br>1/16W<br>1/16W | S817<br>S818<br>S819         | 1-!                          |
| R835<br>R836<br>R837    | 1-216-833-11<br>1-216-837-11<br>1-216-837-11 | METAL GLAZE<br>METAL GLAZE<br>METAL GLAZE       | 10K<br>22K<br>22K    | 5%<br>5%<br>5%  | 1/16W<br>1/16W<br>1/16W | S820<br>S901<br>S902         | 1 -!<br>1 -!                 |
| R838<br>R839<br>R841    | 1-216-110-00<br>1-216-103-00<br>1-218-272-11 | METAL CHIP<br>METAL CHIP<br>METAL GLAZE         | 360K<br>180K<br>5.1K |                 | 1/10W<br>1/10W<br>1/16W | T001<br>T002<br>T401         | 1                            |
| R842<br>R848<br>R849    | 1-216-827-11<br>1-216-827-11<br>1-216-843-11 | METAL GLAZE<br>METAL GLAZE<br>METAL GLAZE       | 3.3K<br>3.3K<br>68K  | 5%<br>5%<br>5%  | 1/16W<br>1/16W<br>1/16W | X001<br>X301<br>X801         | ] -!<br>] -!<br>] -!         |
| R850<br>R851<br>R852    | 1-216-837-11<br>1-216-857-11<br>1-216-837-11 | METAL GLAZE<br>METAL GLAZE<br>METAL GLAZE       | 22K<br>1 M<br>22K    | 5%<br>5%<br>5%  | 1/16W<br>1/16W<br>1/16W | X802<br>_AC                  | l -:<br>CESS                 |
| R853<br>R854<br>R855    | 1-216-075-00<br>1-216-066-00<br>1-216-061-00 | METAL GLAZE<br>METAL GLAZE<br>METAL GLAZE       | 12K<br>5.1K<br>3.3K  | 5%<br>5%<br>5%  | 1/10W<br>1/10W<br>1/10W | <u> </u>                     | 465-<br>465-                 |
| R856<br>R857<br>R858    | 1-216-242-00<br>1-216-224-00<br>1-216-066-00 | METAL GLAZE<br>METAL GLAZE<br>METAL GLAZE       | 68K<br>12K<br>5.1K   | 5%<br>5%<br>5%  | 1/8W<br>1/8W<br>1/10W   | Δ1 -<br>Δ1 -<br>Δ1 -<br>Δ1 - | 465-<br>465-                 |
| R859<br>R861<br>R863    | 1-216-061-00<br>1-216-837-11<br>1-216-861-11 | METAL GLAZE<br>METAL GLAZE<br>METAL GLAZE       | 3.3K<br>22K<br>2.2M  | 5%<br>5%<br>5%  | 1/10W<br>1/16W<br>1/16W | 1-                           | 528-<br>528-                 |
| RV001<br>RV301<br>RV401 | 1-238-733-11<br>1-241-017-11<br>1-241-066-11 | RES, ADJ, MET<br>RES, VAR, CAR<br>RES, ADJ, MET | RBON 10              | K/10K           | (VOLUME)                | 1-                           | 555-<br>575-<br>752-         |
| RV402<br>RV403<br>RV501 | 1-241-069-11<br>1-241-065-11<br>1-241-068-11 | RES, ADJ, MET<br>RES, ADJ, MET<br>RES, ADJ, MET | TAL GRA              | ZE 2.2          | K                       | 3-                           | 752-<br>752-                 |
| RV502<br>RV503<br>RV504 | 1-241-068-11<br>1-241-069-11<br>1-241-064-11 | RES, ADJ, MET<br>RES, ADJ, MET<br>RES, ADJ, MET | TAL GRA              | ZE 47K          |                         | *4-                          | 752 <b>-</b><br>920-<br>931- |
| RV505<br>RV801          | 1-241-068-11                                 | RES, ADJ, MET                                   | TAL GRA              | ZE 10K          |                         | *4-!<br>*4-!                 | 931 -<br>931 -<br>941 -      |
| \$001<br>\$002<br>\$003 | 1-570-397-11<br>1-570-397-11<br>1-570-397-11 | SWITCH, SLIDE<br>SWITCH, SLIDE<br>SWITCH, SLIDE | E (FM M<br>E (TUNE   | NODE)<br>R ISS) |                         | *4-9                         | 941-<br>941-<br>941-         |
| S301<br>S401<br>S801    | 1-570-386-21<br>1-570-953-11<br>1-570-909-21 | SWITCH, SLIDE<br>SWITCH, PUSH<br>SWITCH, TACTI  | (1 KEY               | ')(BP-2         | ON)                     |                              | 953-<br>953-                 |
| \$802<br>\$803<br>\$804 | 1-570-909-21<br>1-570-909-21<br>1-570-909-21 | SWITCH, TACTI<br>SWITCH, TACTI<br>SWITCH, TACTI | IL (REF              | LOW TY          | PE)(144)                | X-4<br>▲ 1-4<br>▲ 1-5        |                              |
| \$805<br>\$806<br>\$807 | 1-570-204-11<br>1-570-204-11<br>1-571-860-11 | SWITCH, KEY E<br>SWITCH, KEY E<br>SWITCH, SLIDE | Board (              | ENTER           | MEMORY)                 | EA                           | : Sa                         |
| \$808<br>\$809<br>\$810 | 1-571-737-21<br>1-571-737-21<br>1-571-737-21 | SWITCH, KEY E<br>SWITCH, KEY E<br>SWITCH, KEY E | BOARD (              | REFLOW          | )(6)                    |                              |                              |
| S811<br>S812<br>S813    | 1-571-737-21<br>1-571-737-21<br>1-571-737-21 | SWITCH, KEY E<br>SWITCH, KEY E<br>SWITCH, KEY   | )<br>30ard (         | TUNER<br>REFLOW | ON/BAND)<br>)(2)        |                              | Note<br>The<br>fied          |
|                         |  |   |                      |                 |                         | 1                            | ted                          |

| f.No.  | Part No.   | Description   |
|--|--|---|
| S814<br>S815<br>S816   | 1-571-737-2<br>1-571-737-2<br>1-571-737-2                | SWITCH, KEY BOARD (REFLOW)(+10)   |
| \$817<br>\$818<br>\$819  | 1-571-737-2<br>1-571-737-2<br>1-571-737-2                | SWITCH, KEY BOARD (REFLOW)(7)   |
| \$820<br>\$901<br>\$902  | 1-571-506-4<br>1-570-953-1<br>1-572-025-1                | 11 SWITCH, PUSH (1 KEY)(OPEN)   |
| T001<br>T002<br>T401   | 1-404-690-1<br>1-448-302-1<br>1-450-227-2                | 11 TRANSFORMER, DC-DC CONVERTER   |
| X001<br>X301<br>X801<br>X802                                     | 1-579-101-1<br>1-567-737-1<br>1-577-064-1<br>1-577-316-1 | NI VIBRATOR, CRYSTAL (16.9344MHz) VIBRATOR, CHIP CERAMIC (3.58MHz)  |
| ACC  | ESSORY & PA  | CKING MATERIAL  |
| <u>↑</u> 1 -4<br><u>↑</u> 1 -4<br><u>↑</u> 1 -4<br><u>↑</u> 1 -4 | 65-269-11<br>65-520-11<br>65-608-11                      | (US)ADAPTOR, AC (AC-64N(U)) (Canadian)ADAPTOR, AC (AC-64N(CA)) (AEP)ADAPTOR, AC (AC-64N(AE)) (UK)ADAPTOR, AC (AC-64N(UK)) (E)ADAPTOR (AC-64N) (US)ADAPTOR, AC (AC-64NA) (E)ADAPTOR, CONVERSION 2P |
|  |  | (AEP)BATTERY PACK (BP-2EX)(RECYCLE MARK)<br>BATTERY PACK (BP-2EX)   |
|  |  | CORD, CONNECTION (RK-G129)<br>CORD, CONNECTION  |
| 3-7  | 52-086-01  | INSTRUCTION (JAPAN/ENGLISH/FRENCH)  |
| 3-7  | 52-258-11  | (Canadian, AEP, E, UK)MANUAL, INSTRUCTION<br>(ENGLISH/FRENCH/SPANISH/PORTUGUESE)  |
|  |  | (US)MANUAL, INSTRUCTION (ENGLISH) (AEP,IT)MANUAL, INSTRUCTION   |
|  |  | (GERMAN/DUTCH/SWEDISH/ITALIAN)<br>BAG, PROTECTION<br>STRAP, HAND  |
| *4-9<br>*4-9   | 31-874-01<br>41-009-01                                   | (AEP,UK)CUSHION (UPPER) (US,Canadian,E)CUSHION (UPPER) (US,Canadian,E)CUSHION (LOWER) (AEP,IT,UK)CUSHION (LOWER)  |
|  | 41-011-01<br>41-012-01                                   | (US,Canadian,E)INDIVIDUAL CARTON<br>(AEP,IT,UK)INDIVIDUAL CARTON  |
|  |  | (US,AEP,IT,UK)HEADPHONE MDR-A10D SET<br>(Canadian,E)HEADPHONE MDR-E472A SET   |
|  |  | CASE ASSY, BATTERY  |
|  | 65-268-11<br>06-401-31                                   | (EA)ADAPTOR, AC (AC-64 (E))<br>(EA)ADAPTOR, AC PLUG   |
| EA:  | Saudi Arab   | ia  |
|  |  |   |
|  |  |   |
|  |  |   |

The components identified by mark A or dotted line with mark are critical for safety.

Replace only with part number specified.

Note:
Les composants identifiés par une marque A sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.